```
=> d que stat l17
L1        130186 SEA FILE=HCAPLUS ABB=ON  (?ARRAY?)
L2             8 SEA FILE=HCAPLUS ABB=ON  L1 AND (?IMMOBIL? OR ?BORDER?)(W)?REGI
                  ON?
L3            20 SEA FILE=HCAPLUS ABB=ON  L1 AND ((?HYDROPHOBIC? OR ?CONVERT?)(W
                  )?MOIETY? OR (?PHOTOCLEAV? OR ?PHOTOISOMERIZ? OR ?CATALYTIC?
                  OR ?PHOTOREACT?)(W)?GROUP?)
L4            28 SEA FILE=HCAPLUS ABB=ON  L2 OR L3
L9         36181 SEA FILE=HCAPLUS ABB=ON  L1 AND (?DEVIC? OR ?MECHANIS? OR
                  ?APPARAT?)
L10         8833 SEA FILE=HCAPLUS ABB=ON  L9 AND (?ANALYT? OR ?MOLECUL?)
L11          468 SEA FILE=HCAPLUS ABB=ON  L10 AND (?BIOMOLEC? OR ?ANALYTES?)
L13          248 SEA FILE=HCAPLUS ABB=ON  L11 AND (?SUBSTRAT? OR ?SURFAC?)
L14           21 SEA FILE=HCAPLUS ABB=ON  L13 AND (?HYDROPHIL? OR ?HYDROPHOB?)
L16            6 SEA FILE=HCAPLUS ABB=ON  L14 AND (?PHOTO? OR ?LIGHT?)
L17           34 SEA FILE=HCAPLUS ABB=ON  L4 OR L16

=> d ibib abs l17 1-34
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L17 ANSWER 1 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:312639 HCAPLUS
TITLE: Novel fluorescent cationic phospholipid, O-4-naphthylimido-1-butyl-DOPC, exhibits unusual foam morphology, forms hexagonal and cubic phases in mixtures, and transfects DNA
AUTHOR(S): Koynova, Rumiana; Rosenzweig, Howard S.; Wang, Li; Wasielewski, Michael; MacDonald, Robert C.
CORPORATE SOURCE: Molecular Biology & Cell Biology, Department of Biochemistry, Northwestern University, Evanston, IL, 60208, USA
SOURCE: Chemistry and Physics of Lipids (2004), 129(2), 183-194
CODEN: CPLIA4; ISSN: 0009-3084
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The novel cationic triester of phosphatidylcholine, O-4-naphthylimido-1-butyl-dioleoylphosphatidylcholine (NB-DOPC), has been synthesized: 1-amino-4-butanol was reacted with naphthylic anhydride to form 4-hydroxybutyl-1-naphthylamide, which was then reacted with triflic anhydride; the resultant triflate was reacted with dioleoylphosphatidylcholine so as to transfer the naphthylimido-Bu group to the unsubstituted phosphate oxygen. The resultant compound is thus not only pos. charged, but also has a bulky **hydrophobic moiety** attached to the headgroup. This novel cationic phospholipid exhibits a peculiar long-living foam-like morphol. upon hydration, which could have applications in encapsulation and delivery. It is characterized by high adhesiveness to hydrophobic surfaces. X-ray diffraction showed that it forms a lamellar structure of rather short repeat period, indicative of an unusually small interlamellar separation and low hydration level. It readily incorporates DNA and organizes into lamellar lipoplexes. These DNA-lipid complexes effectively transfect DNA into cells. In an equimolar mixture of this lipid with the anionic dioleoylphosphatidylglycerol lamellar **arrays** coexist with disordered uncorrelated structures, however, these transform into a bicontinuous cubic phase, Pn3m, upon addition of DNA. When mixed with another anionic lipid, cardiolipin, at a NB-DOPC/ cardiolipin 2:1 molar ratio, it forms the inverted hexagonal phase which is of potential interest for nanotechnol. applications.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 2 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:180365 HCAPLUS
DOCUMENT NUMBER: 140:232129
TITLE: Method for producing cDNA **array**
INVENTOR(S): Yamamoto, Nobuko
PATENT ASSIGNEE(S): Canon Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004069488	A2	20040304	JP 2002-228971	20020806

PRIORITY APPLN. INFO.: JP 2002-228971 20020806

AB A method is provided for producing a cDNA **array** by fixing onto a baseplate only the strand with a desired sequence from a double-stranded DNA amplified by a PCR method. The method for forming a cDNA **array** on a carrier comprises: (1) a process for preparing more than two kinds of single-stranded DNA resp. possessing a known sequence and a functional group for immobilization introduced at its one end; (2) a process for binding each of the more than two kinds of single-stranded cDNA with the carrier through a functional group for binding so that the **immobilization region** for each single-stranded DNA is arranged sep. from each other, and producing a cDNA **array** in which the **immobilization regions** are arranged in a fixed disposition.

L17 ANSWER 3 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:162878 HCAPLUS
DOCUMENT NUMBER: 140:195850
TITLE: Method for bonding semiconductor surfaces via reactive silanes for use in biochips and biosensors
INVENTOR(S): Klapproth, Holger
PATENT ASSIGNEE(S): Micronas Holding GmbH, Germany
SOURCE: PCT Int. Appl., 17 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004017071	A2	20040226	WO 2003-EP8955	20030812

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

DE 10237280 A1 20040311 DE 2002-10237280 20020814
PRIORITY APPLN. INFO.: DE 2002-10237280 A 20020814

AB The invention concerns the bonding of two semiconductor surfaces by (a) coating the semiconductor surfaces with a monoreactive silane and (b) immobilizing the layer to the surfaces; (c) contacting the two coated semiconductor surfaces for chemical bonding; steps (b) and (c) take place simultaneously. The silane layer can form a monolayer or polylayers with gel structure. Reactive silanes are glyceride-oxypropyl-trimethoxy silane, aminopropyl-trimethoxy silane, azo silane or Pr trichloro silane. There can be spacers between the silane group and the functional groups. The surface of the two semiconductor layers can be coated with identical or non-identical reacting layers. The spacers can include **photoreactive groups**; the m.p. of crosslinked polymers is below 150°C.

L17 ANSWER 4 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:832105 HCAPLUS
DOCUMENT NUMBER: 140:106114
TITLE: 12p-Amplicon structure analysis in testicular germ cell tumors of adolescents and adults by **array** CGH
AUTHOR(S): Zafarana, Gaetano; Grygalewicz, Beata; Gillis, Ad J. M.; Vissers, Lisenka E. L. M.; van de Vliet, Walter; van Gurp, Ruud J. H. L. M.; Stoop, Hans; Debiec-Rychter, Maria; Oosterhuis, Jan Wolter; van Kessel, Ad Geurts; Schoenmakers, Eric F. P. M.; Looijenga, Leendert H. J.; Veltman, Joris A.
CORPORATE SOURCE: Pathology/Laboratory for Exp. Patho-Oncology, Erasmus MC-Erasmus University Medical Center/Daniel den Hoed Cancer Center, Rotterdam, Neth.
SOURCE: Oncogene (2003), 22(48), 7695-7701
CODEN: ONCNES; ISSN: 0950-9232
PUBLISHER: Nature Publishing Group
DOCUMENT TYPE: Journal
LANGUAGE: English

AB All invasive testicular germ cell tumors of adolescents and adults (TGCTs), i.e., seminomas and nonseminomas, show gain of 12p sequences, mostly as isochromosomes. Although several candidate genes have been suggested, the relevant gene(s) have not been identified yet. About 10% of testicular seminomas, however, show a more restricted amplification of the 12p11.2-p12.1 region, in which the various amplicons show an apparent overlap, allowing for the shortest region of amplification overlap approach, aiming at the identification of pathogenetically relevant sequences residing in this region. Here we report on a high-resolution 12p-amplicon architecture anal. using **microarray**-based comparative genomic hybridization, the results of which were subsequently confirmed by fluorescent in situ hybridization studies. The 12p-specific **microarray** contained 63 positionally selected BAC clones, which are more or less evenly distributed over the short arm of chromosome 12 (average spacing: less than 500 Kb), including 20 clones within the region of amplification. Out of a series of 17 seminomas, seven seminomas showed amplification of the whole amplicon region, of which three showed a dip in T/R value in the center of the amplified area. A more complex amplification pattern was found in the other 10 seminomas: three showed predominant amplification at the centromeric border; one mainly at the telomeric border; six showed a balanced amplification of both the centromeric and telomeric regions. The only nonseminoma investigated showed a structure in which the centromeric border was only amplified. These data support a mechanistic model in which at least two 12p genes, situated at the **border regions** of the amplicon, are

positional candidates capable of actively supporting tumor progression in TGCTs.
REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 5 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:473127 HCAPLUS
DOCUMENT NUMBER: 139:19309
TITLE: Epoxide polymer surfaces
INVENTOR(S): Swan, Dale G.; Swanson, Melvin J.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 15 pp., Cont.-in-part of U.S. Ser. No. 227913.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003113792	A1	20030619	US 2000-521545	20000309
US 5858653	A	19990112	US 1997-940213	19970930
US 2001014448	A1	20010816	US 1999-227913	19990108
US 6465178	B2	20021015		
WO 2001067129	A2	20010913	WO 2001-US40199	20010227
WO 2001067129	A3	20020606		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1263991	A2	20021211	EP 2001-927369	20010227
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2003526791	T2	20030909	JP 2001-566048	20010227

PRIORITY APPLN. INFO.:
US 1997-940213 A2 19970930
US 1999-227913 A2 19990108
US 2000-521545 A 20000309
WO 2001-US40199 W 20010227

AB Method and reagent composition for covalent attachment of target mols., such as nucleic acids, onto the surface of a substrate. The reagent composition includes epoxide groups capable of covalently binding to the target mol. Optionally, the composition can contain **photoreactive groups** for use in attaching the reagent composition to the surface. The reagent composition can be used to provide activated slides for use in preparing **microarrays** of nucleic acids.

L17 ANSWER 6 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:435195 HCAPLUS
DOCUMENT NUMBER: 139:3185
TITLE: **Arrays** using polymerized **monomolecular** films and methods for using and manufacturing the same
INVENTOR(S): Hobbs, Susan K.; Bednarski, Mark D.; Yang, Yi-Shan;

PATENT ASSIGNEE(S): Guccione, Samira; Shi, Gongyi
USA
SOURCE: U.S. Pat. Appl. Publ., 15 pp.
CODEN: USXXCO

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003104451	A1	20030605	US 2002-285810	20021031
			US 2001-334701P P	20011031

PRIORITY APPLN. INFO.:

AB **Devices** and methods of use and manufacture for the identification and characterization of **analytes**, e.g. proteins, are provided. The subject **devices** are characterized by having a **substrate** with a polymerized monomol. film over at least a portion of the **substrate**, the monomol. film having at least one ligand or specific binding pair member associated therewith. Preferably the monomol. film is stable to the laser intensities employed in MALDI-MS. In certain embodiments, the ligands are biotin, integrin antagonists, antibodies and antigens. In using the subject **devices**, a subject **device** is contacted with a sample. If present in the sample, a member of the binding pair of interest binds to its complementary ligand and, once bound, can be analyze by mass spectroscopy techniques. Also provided are kits, which include the subject **devices**.

L17 ANSWER 7 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:396351 HCAPLUS
DOCUMENT NUMBER: 138:354178
TITLE: Phosphoramidites for coupling oligonucleotides to [2+2] **photoreactive groups**
INVENTOR(S): Brush, Charles K.; Elghanian, Robert; Xu, Yanzheng
PATENT ASSIGNEE(S): Motorola, Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 17 pp., Cont.-in-part of U.S. Ser. No. 928,250.
CODEN: USXXCO

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003096265	A1	20030522	US 2002-185279	20020628
US 6372813	B1	20020416	US 1999-344620	19990625
US 2003124525	A1	20030703	US 2001-928250	20010809
US 6664061	B2	20031216		
WO 2004002995	A1	20040108	WO 2003-IB2514	20030627

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-344620 A2 19990625
US 2001-928250 A2 20010809
US 2000-224070P P 20000809
US 2000-232305P P 20000912
US 2002-185279 A 20020628

AB Photoreactive phosphoramidites DEOP(OR1)N(R2)2 I [wherein E = (un)substituted alkyl, alkyl(hetero)cycloalkylidenealkyl, or alky (hetero)aryl, or (hetero)cycloadkenyl; R1 = (cyclo)alkyl comprising a heteroatom; R2 = independently alkyl or (hetero)cycloalkyl; or N(R2)2 = heterocyclyl], useful for attaching photoreactive sites to nucleic acids and oligonucleotides, were synthesized. The resultant nucleic acid or oligonucleotide probes (no data) incorporating the photoreactive sites were then attached to a polymer-coated support by a [2+2] cycloaddn. to form a micro-**array**. For example, iminostilbene was alkylated with 6-bromohexyl tert-butyldimethylsilyl ether in the presence of BuLi to give 5-[6-(tert-butyldimethylsilyloxy)hexyl] -5-dibenz[b,f]azepine (40%), which was deprotected wing Bu4NF in the THF provided the alc. (85%). Coupling of the alc. with 2-cyanoethyl diisopropylchlorophosphoramidite provided the title photoreactive phosphoramidate (83%).

L17 ANSWER 8 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:334513 HCAPLUS
DOCUMENT NUMBER: 138:334058
TITLE: High density **microarray** preparation with photoactivatable nucleic acid derivatives
INVENTOR(S): Swanson, Melvin J.; Guire, Patrick E.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 19 pp., Cont.-in-part of U.S. Ser. No. 670,766, abandoned.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003082604	A1	20030501	US 2002-233071	20020830
WO 2004020085	A1	20040311	WO 2003-US9795	20030401

W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2000-670766 B2 20000927
US 2002-233071 A 20020830

AB The present invention relates to the immobilization of nucleic acids onto a solid support. More particularly, the invention relates to high d. nucleic acid **arrays**. The invention provides a method for generating **arrays** with a variety of densities, in particular, high d. **arrays** (e.g., an **array** having a d. of about 10,000 to 100,000 spots per square centimeter or a pitch of between about 30 to about 100 μm). Generally, the method includes a printing step and an illumination step. In the printing step, a volume (between about 0.5

pL and 500 pL) of a reagent solution containing receptor mols. is applied to a solid support in a desired pattern. In one embodiment, the receptor mol. is derivatized with a photoreactive agent. In an alternate embodiment, the solid support includes a photoreactive agent. In a preferred embodiment, the receptor mol. is a nucleic acid (e.g., oligonucleotide, cDNA or PCR product). In the illumination step, the **photoreactive groups** are irradiated to immobilize the receptor mol. to the solid support. In one embodiment, a mask having the same center to center distance (e.g., pitch) as the printed spots, but a smaller spot diameter, is placed over the printed pattern and illuminated. In an alternate embodiment, the illumination step can be carried out using mirrored laser technol. Typically, after the illumination step, reagent (e.g., receptor mol.) that has not been immobilized is removed by a wash step. The process can then be repeated, although offset from the original pattern. If desired, the process can be repeated multiple times to manufacture a high-d. **array**. Preparation and evaluation of a benzophenone substituted oligonucleotide, psoralen substituted oligonucleotide, photopolymer derivatized with oligonucleotides, is described.

L17 ANSWER 9 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:334338 HCAPLUS
DOCUMENT NUMBER: 138:329114
TITLE: An **array** substrate for transflective liquid crystal display device and method of its fabricating
INVENTOR(S): Ha, Kyoung-Su; Kim, Woong-Kwon; Kim, Dong-Guk
PATENT ASSIGNEE(S): S. Korea
SOURCE: U.S. Pat. Appl. Publ., 30 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003081159	A1	20030501	US 2002-179394	20020626
JP 2003140190	A2	20030514	JP 2002-197471	20020705
CN 1417622	A	20030514	CN 2002-129475	20020822

PRIORITY APPLN. INFO.: KR 2001-66643 A 20011029

AB The invention relates to an **array** substrate for use in a transflective liquid crystal display device that has a high contrast ratio. The **array** substrate includes a first light-shielding pattern on a substrate, which is made of the same material as a gate electrode. The **array** substrate further includes a second light-shielding pattern that is made of the same material as an active layer in the same process step. These first and second light-shielding patterns are disposed in a border portion between the transmissive portion and the reflective portion, where the liquid crystal mols. are misaligned and the light is distorted. The first and second light-shielding pattern prevents the light leakage occurring in the **border region** between the transmissive portion and the reflective portion, thereby increasing the contrast ratio of the transflective LCD device.

L17 ANSWER 10 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:133476 HCAPLUS
DOCUMENT NUMBER: 138:165520
TITLE: SELEX or photoSELEX for generating aptamers forming intramolecular duplexes
INVENTOR(S): Gold, Larry; Brody, Edward N.
PATENT ASSIGNEE(S): Somalogic, Inc., USA

SOURCE: PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003014369	A1	20030220	WO 2002-US27085	20020808

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2001-311281P P 20010809

AB The present invention provides nucleic acid ligands or aptamers of general composition 5' A-L-A' 3', wherein L comprises the target-binding or target-reacting portion of the nucleic acid ligand, and wherein A and A' are flanking mutually-complementary sequences that can basepair with one another to form an intramol. duplex or stem-loop structure. In turn, the 5' and/or the 3' terminus of the nucleic acid ligand may be bound to a solid support to form a spatially-localized nucleic acid ligand. The invention also includes methods and reagents for generating nucleic acid ligands of composition 5' A-L-A' 3' by the SELEX process. The invention also provides photocrosslinking nucleic acid ligands of the general composition 5' A-L-A' 3', wherein the target-binding region L comprises one or more **photoreactive groups**, and wherein A and A' are flanking mutually-complementary sequences that can basepair with one another to form an intramol. duplex. In turn, the 5' and/or the 3' terminus of the nucleic acid ligand may be bound to a solid support to form a spatially-localized photocrosslinking nucleic acid ligand. A plurality of such bound photocrosslinking nucleic acids on a solid support constitutes a nucleic acid ligand **array** or biochip.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 11 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:49118 HCAPLUS
DOCUMENT NUMBER: 139:226628
TITLE: Micropatterned polysaccharide surfaces via laser ablation for cell guidance
AUTHOR(S): Barbucci, Rolando; Lamponi, Stefania; Pasqui, Daniela; Rossi, Antonella; Weber, Elisabetta
CORPORATE SOURCE: Department of Chemical and Biosystem Science and Technology, University of Siena, Siena, 53100, Italy
SOURCE: Materials Science & Engineering, C: Biomimetic and Supramolecular Systems (2003), C23(3), 329-335
CODEN: MSCEEE; ISSN: 0928-4931
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Micropatterned materials were obtained by a controlled laser ablation of a photo-immobilized homogeneous layer of hyaluronic acid (Hyal) and its

sulfated derivative (HyalS). The photo-immobilization was performed by coating the polysaccharide, adequately functionalized with a **photoreactive group**, on aminosilanised glass substrate and immobilizing it on the surface under UV light. Hyal or HyalS photoimmobilized samples were then subjected to laser ablation with wavelengths in the UV regions in order to drill the pattern. Four different patterns with stripes of 100, 50, 25 and 10 μm were generated. A chemical characterization by attenuated total reflection/Fourier transform IR (ATR/FT-IR) and time of flight-secondary ions mass spectrometry (TOF-SIMS) confirmed the success of the laser ablation procedure and the presence of alternating stripes of polysaccharide and native glass. The exact dimensions of the stripes were determined by atomic force microscopy. The anal. of cell behavior in terms of adhesion, proliferation and movement using mouse fibroblasts (3T3 line) and bovine aortic endothelial cells (BAEC) was also performed.

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 12 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:308 HCAPLUS
DOCUMENT NUMBER: 138:21759
TITLE: Method and epoxide-based reagent composition for covalent attachment of target molecules on substrate surfaces
INVENTOR(S): Swan, Dale G.; Swanson, Melvin J.
PATENT ASSIGNEE(S): Surmodics, Inc., USA
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001067129	A2	20010913	WO 2001-US40199	20010227
WO 2001067129	A3	20020606		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 2003113792	A1	20030619	US 2000-521545	20000309
EP 1263991	A2	20021211	EP 2001-927369	20010227
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2003526791	T2	20030909	JP 2001-566048	20010227

PRIORITY APPLN. INFO.:
US 2000-521545 A 20000309
US 1997-940213 A2 19970930
US 1999-227913 A2 19990108
WO 2001-US40199 W 20010227

AB The invention concerns a method and reagent composition for covalent attachment of target mols., such as nucleic acids, onto the surface of a substrate. The reagent composition includes epoxide groups capable of covalently binding to the target mol. Optionally, the composition can contain

photoreactive groups for use in attaching the reagent composition to the surface. The reagent composition can be used to provide activated slides for use in preparing **microarrays** of nucleic acids.

L17 ANSWER 13 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:845515 HCAPLUS
DOCUMENT NUMBER: 137:348737
TITLE: **Arrays** of proteins and methods of use thereof
INVENTOR(S): Wagner, Peter; Ault-Riche, Dana; Nock, Steffen; Itin, Christian
PATENT ASSIGNEE(S): Zyomyx, Incorporated, USA
SOURCE: U.S., 31 pp., Cont. of U.S. Ser. No. 115,455.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6475808	B1	20021105	US 1999-353215	19990714
US 6406921	B1	20020618	US 1998-115455	19980714
US 6475809	B1	20021105	US 2000-570588	20000512
US 6630358	B1	20031007	US 2000-570363	20000512
US 2002106702	A1	20020808	US 2002-112840	20020329
US 2002110933	A1	20020815	US 2002-113964	20020329

PRIORITY APPLN. INFO.: US 1998-115455 A2 19980714
US 1999-353215 B3 19990714

AB Protein **arrays** for the parallel, in vitro screening of biomol. activity are provided. Methods of using the protein **arrays** are also disclosed. On the **arrays**, a plurality of different proteins, such as different members of a single protein family, are immobilized on one or more organic thin films on the substrate surface. The protein **arrays** are particularly useful in drug development, proteomics, and clin. diagnostics. An **array** device comprises a substrate, an ordered hydrophobic polymer monolayer chemisorbed or physisorbed to the surface, a hydrophilic polymer monolayer, and protein-immobilizing groups covalently attached to a selected fraction of the hydrophilic chains within regions on the **array**, such that application of selected proteins to the **array** regions forms an **array** of protein regions, each having a selected surface concentration of a selected protein carried in and displayed on the hydrophilic monolayer, and separated from one another by **border regions** effective to resist nonspecific protein binding. Caspase fusion proteins were immobilized on aminoreactive 11,11'-dithiobis(succinimidylundecanoate) attached to gold surfaces of **microarrays**.

REFERENCE COUNT: 152 THERE ARE 152 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 14 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:750872 HCAPLUS
DOCUMENT NUMBER: 137:259605
TITLE: Probe carrier and its production method
INVENTOR(S): Yamamoto, Nobuko; Ohashi, Naoto
PATENT ASSIGNEE(S): Canon Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent

LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002286712	A2	20021003	JP 2001-93268	20010328
US 2002150942	A1	20021017	US 2002-105303	20020326

PRIORITY APPLN. INFO.: JP 2001-93268 A 20010328

AB A probe carrier possessing the constitution suitable for mass production, and its production method are provided. The probe carrier possessing a phase with the **immobilization regions** arranged for specific probes are obtained by placing roughly in parallel the hollow components resp. carrying an immobilized different probe, forming a bundle with the resp. edge part uniformly set, and cutting the fixed part obtained by filling a binding agent to the edge part side of the bundle and solidifying it, at the phase intersecting with the axial direction of the hollow components with a specific thickness. Diagrams describing the probe carrier assembly are shown.

L17 ANSWER 15 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:748288 HCAPLUS
DOCUMENT NUMBER: 137:259598
TITLE: Probe carrier, method for producing probe carrier, and apparatus using probe carrier
INVENTOR(S): Yamamoto, Nobuko; Yoshii, Hiroto; Ohashi, Naoto
PATENT ASSIGNEE(S): Canon Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002286727	A2	20021003	JP 2001-93267	20010328
US 2002147330	A1	20021010	US 2002-106460	20020327

PRIORITY APPLN. INFO.: JP 2001-93267 A 20010328

AB A probe carrier with a novel shape useful as DNA **array** or else is provided, with which the operatability upon its production or during various processes for sample anal. is improved, and the production cost is reduced. The probe carrier is formed by arranging the **immobilization regions** for different probes in the axial direction of a base material with a long pipe-shape such as a thread- , a string-, or a rod-shape. Diagrams describing the probe carrier and apparatus assembly are given.

L17 ANSWER 16 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:505440 HCAPLUS
DOCUMENT NUMBER: 137:58577
TITLE: Photoactivatable nucleic acid derivatives, their synthesis and use in preparing immobilized nucleic acid **arrays**
INVENTOR(S): Guire, Patrick E.; Swanson, Melvin J.; Opperman, Gary W.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 11 pp., Cont.-in-part of U. S. Ser. No. 916,913.
CODEN: USXXCO

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002086989	A1	20020704	US 1998-28806	19980224
US 6506895	B2	20030114		
US 6121027	A	20000919	US 1997-916913	19970815
CA 2321098	AA	19990902	CA 1999-2321098	19990223
WO 9943688	A1	19990902	WO 1999-US3862	19990223
W: AU, CA, JP, MX				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9928729	A1	19990915	AU 1999-28729	19990223
AU 758328	B2	20030320		
EP 1064292	A1	20010103	EP 1999-909547	19990223
R: DE, ES, FR, GB, IT, IE				
JP 2002504695	T2	20020212	JP 2000-533440	19990223
US 6514734	B1	20030204	US 2000-591564	20000609
AU 768490	B2	20031211	AU 2001-76081	20010921
US 2003181423	A1	20030925	US 2003-357131	20030203

PRIORITY APPLN. INFO.:

US 1997-916913 A2 19970815
US 1998-28806 A 19980224
AU 1998-91973 A3 19980811
WO 1999-US3862 W 19990223
US 2000-591564 A1 20000609

AB A photoactivatable nucleic acid derivative composition in which one or more **photoreactive group**(s) are bound to a natural or synthetic nucleic acid is disclosed. The **photoreactive groups** may be a ketone such as benzophenone, or may be a group which generates a nitrene or carbene. The **photoreactive groups** can be bound to the nucleic acid before, during or after its formation, and can thereafter be activated in order to attach the nucleic acid to another mol., e.g., to the surface of a solid support. Also described is a method of preparing such a composition in which a nucleic acid derivative containing a thermochem. reactive group is reacted with a compound containing a reactive group and a **photoreactive group**. For example, reactions between amines and N-oxysuccinimde esters, between carboxylic acid chlorides and amines, or between a maleimide and a sulfhydryl group may be used to prepare the photoactive nucleic acid derivative Alternatively, nucleotide monomers containing a **photoreactive group** may be used in synthesis of oligonucleotides/nucleic acids. Thus, N-[3-(4-benzoylbenzamido)propyl]methacrylamide (BBA-APMA) and N-succinimidyl 6-maleimidohexanoate (MAL-EAC-NOS) were synthesized and, using these compds., a copolymer of acrylamide, BBA-APMA, and MAL-EAC-NOS was also synthesized. An amino-terminated oligonucleotide was immobilized on polypropylene or polyvinyl chloride microwell plates by irradiation in the presence of this copolymer.

L17 ANSWER 17 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:465876 HCAPLUS
DOCUMENT NUMBER: 137:34860
TITLE: Heat exchanger/chemical reactor
INVENTOR(S): Symonds, Keith Thomas
PATENT ASSIGNEE(S): Chart Heat Exchangers Ltd., UK
SOURCE: PCT Int. Appl., 27 pp.

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002047808	A1	20020620	WO 2001-GB5515	20011212
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002022200	A5	20020624	AU 2002-22200	20011212

PRIORITY APPLN. INFO.: GB 2000-30201 A 20001212
WO 2001-GB5515 W 20011212

AB A heat exchanger/chemical reactor comprises a stack of perforated metal plates. The central region of the plates has been etched to provide a plurality of apertures defining an **array** of adjacent column precursors together and to the **border region**. Each column precursor is hollow in that it has a longitudinally-extending passageway through its length. Radial grooves extend from central passageway to form radial flow paths from the central passageways to be apertured regions of the plate. Each column precursor has equi-spaced grooves. Process fluid can be passed through a stack of plates and reactant fluid can be passed through central passageways to emerge from grooves into apertures where it mixes with the process fluid.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 18 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:331906 HCAPLUS
DOCUMENT NUMBER: 136:337313
TITLE: Patterned surfaces for bioconjugation and their preparation
INVENTOR(S): Klapproth, Holger; Wagner, Gerhard
PATENT ASSIGNEE(S): Biochip Technologies G.m.b.H., Germany
SOURCE: Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1202062	A1	20020502	EP 2000-123706	20001031
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
WO 2002037110	A1	20020510	WO 2001-EP12531	20011030
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, OM, PH, PL, PT, RO,				

RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ,
VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2002012351	A5	20020515	AU 2002-12351	20011030
JP 2004513344	T2	20040430	JP 2002-539813	20011030
US 2004096849	A1	20040520	US 2003-415481	20030430
PRIORITY APPLN. INFO.:			EP 2000-123706 A	20001031
			WO 2001-EP12531 W	20011030

AB The invention relates to a method for the large scale production of patterned active surfaces for bioconjugation comprising the steps of:(a) preparing a self-supporting film of a polyfunctional polymer network comprising an assembly of cross-linked polymer subchains, wherein each polymer subchain comprises a multitude of identical or different repeating units carrying one or more functional groups which allow an interaction of the polymer with one or more probe mols., (b) providing said self-supporting film with patterned **arrays** of said one or more probe mols. via an interaction with said functional groups, and (c) fixing said self-supporting film on a solid surface. In a preferred embodiment of the invention the patterned active surface obtained is cut into an endless tape of a desired format and wound up onto a drum. This "endless chip" is ready for fixing to a solid surface of any material or shape. N-methacryloyl-6-aminocapronic acid hydroxysuccinimide ester was prepared and used to form a polyfunctional polymer network with N,N-dimethylacrylamide, and ethylene glycol bismethacrylate. The polymer network was fixed to a microscope slide covered with a layer of benzophenone-based bifunctional silane linker. A 5-amino-modified oligonucleotide was printed onto the polymer network and coupled to the surface to make a sensor.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 19 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:293516 HCAPLUS
DOCUMENT NUMBER: 136:291317
TITLE: Template platens for the preparation of high density ordered **arrays** of materials for **analytical** use
INVENTOR(S): Hess, Robert A.; Kanigan, Tanya S.; Brenan, Colin J. H.; Ozbal, Can; Linton, John Dudley
PATENT ASSIGNEE(S): Biotrove, Inc., USA
SOURCE: PCT Int. Appl., 135 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002030561	A2	20020418	WO 2001-US31770	20011010
WO 2002030561	A3	20030522		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM,
HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,
LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT,
RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US,
UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,

DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2001096809	A5	20020422	AU 2001-96809	20011010
US 2002094533	A1	20020718	US 2001-975496	20011010
US 6716629	B2	20040406		
EP 1330306	A2	20030730	EP 2001-977713	20011010

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

JP 2004510996	T2	20040408	JP 2002-533997	20011010
US 2003124716	A1	20030703	US 2002-315832	20021210
US 2003180807	A1	20030925	US 2002-315549	20021210

PRIORITY APPLN. INFO.:

US 2000-239538P	P	20001010
US 2001-268894P	P	20010214
US 2001-284710P	P	20010418
US 2001-975496	A3	20011010
WO 2001-US31770	W	20011010

AB The invention features methods of making **devices**, or "platens" having a high-d. **array** of through-holes, as well as methods of cleaning and refurbishing the **surfaces** of the platens. The invention further features methods of making high-d. **arrays** of chemical, biochem., and biol. compds., having many advantages over conventional, lower-d. **arrays**. The invention includes methods by which many phys., chemical or biol. transformations can be implemented in serial or in parallel within each addressable through-hole of the **devices**. Addnl., the invention includes methods of analyzing the contents of the **array**, including assaying of phys. properties of the samples. In various embodiments, the reagents can be contained within the through-holes by capillary action, attached to the walls of the through-hole. The porous material can be, for example, a gel, a bead, sintered glass, or particulate matter, or can be the inner wall of a through-hole that has been chemical etched. In particular embodiments, the **arrays** can include individual mols., complexes of mols., viruses, cells, groups of cells, pieces of tissue, or small particles or beads. The members of the **arrays** can also, for example, function as transducers that report the presence of an **analyte** (e.g., by providing an easily detected signal), or they can function as selective binding agents for the retention of **analytes** of interest. Using these methods, **arrays** corresponding to a large plurality of human genes (e.g., using nucleic acid probes) can also be prepared

L17 ANSWER 20 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:256117 HCAPLUS
DOCUMENT NUMBER: 136:259549
TITLE: High density **arrays**
INVENTOR(S): Swanson, Melvin J.; Guire, Patrick E.
PATENT ASSIGNEE(S): Surmodics, Inc., USA
SOURCE: PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002026376	A2	20020404	WO 2001-US28216	20010906
WO 2002026376	A3	20020815		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,

LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL,
PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,
UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2001088960	A5	20020408	AU 2001-88960	20010906
EP 1326707	A2	20030716	EP 2001-968731	20010906
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004510147	T2	20040402	JP 2002-530198	20010906
PRIORITY APPLN. INFO.:			US 2000-670766 A	20000927
			WO 2001-US28216 W	20010906

AB The invention provides a method for generating **arrays** with a variety of densities, in particular, high d. **arrays** Generally, the method includes a printing step and an illumination step. In the printing step, a predetd. volume of a reagent solution containing receptor mols. is applied to a solid support in a desired pattern. In one embodiment, the receptor mol. is derivatized with a photoreactive agent. In an alternate embodiment, the solid support includes a photoreactive agent. In a preferred embodiment, the receptor mol. is a nucleic acid. In the illumination step, the **photoreactive groups** are irradiated to immobilize the receptor mol. to the solid support. In one embodiment, a mask having the same center to center distance (e.g., "pitch) as the printed spots, but a smaller diams., is placed over the printed pattern and illuminated. Preferably the mask illuminates a spot having a smaller diameter than the printed spots. Thus, according to the invention, immobilized reagent spot has a smaller diameter than the original printed spot. In an alternate embodiment, the illumination step can be carried out using mirrored laser technol. If desired, the application and illumination of offset spots can be repeated to form a high d. **array.**

L17 ANSWER 21 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:	2002:172233 HCAPLUS
DOCUMENT NUMBER:	136:213161
TITLE:	Capillary **array** and related methods
INVENTOR(S):	Fulwyler, Mack J.; Gray, Joe W.
PATENT ASSIGNEE(S):	The Regents of the University of California, USA
SOURCE:	PCT Int. Appl., 63 pp. CODEN: PIXXD2
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002018949	A2	20020307	WO 2001-US25775	20010817
WO 2002018949	A3	20030116		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ,
VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 6610499	B1	20030826	US 2000-652873	20000831
AU 2001086525	A5	20020313	AU 2001-86525	20010817
EP 1313552	A2	20030528	EP 2001-965979	20010817
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2003207308	A1	20031106	US 2003-418384	20030417
PRIORITY APPLN. INFO.:			US 2000-652873 A	20000831
			WO 2001-US25775 W	20010817

AB The invention provides methods and **devices** for detecting the presence of one or more target **analytes** in a sample employing a channel having affixed therein one or more binding partners for each target **analyte**. Assays are carried out by transporting the sample through the channel to each successive binding partner so that target **analyte** present in said sample binds to the corresponding binding partner. The sample is then transported beyond the binding partner(s), followed by detection of any target **analyte** bound to each binding partner. In one embodiment, binding efficiency is increased by the use of segmented transport, wherein a first bolus or bubble of a fluid that is immiscible with the sample precedes the sample during transport and a second bolus or bubble of a fluid that is immiscible with the sample follows the sample. Many configurations are possible for the **device** of the invention. A preferred **device** includes : a **substrate** with a channel formed in its **surface**, and a cover element that overlies and seals the channel. Binding partner(s) are affixed to the **surface** of the cover element facing the channel lumen. A capillary-based **array** electrophoretic hybridization system is described.

L17 ANSWER 22 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:	2002:51331 HCAPLUS
DOCUMENT NUMBER:	136:98852
TITLE:	Methods of study for protein patterning and cell adhesion properties
INVENTOR(S):	Chen, Christopher S.; Tien, Joe Y.; Tan, John; Bhatia, Sangeeta N.; Jastromb, William E.
PATENT ASSIGNEE(S):	The Johns Hopkins University School of Medicine, USA
SOURCE:	PCT Int. Appl., 71 pp. CODEN: PIXXD2
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	1
PATENT INFORMATION:	

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002004113	A2	20020117	WO 2001-US41344	20010711
WO 2002004113	A3	20030123		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 2002182633	A1	20021205	US 2001-904200	20010711
PRIORITY APPLN. INFO.:			US 2000-217464P P	20000711

AB The invention concerns a method of adhering a **biomol**. to a **substrate**, comprising treating the **substrate** with a

surfactant compound and a **biomol**. More particularly, the invention relates to a method of adhering a **biomol**. to a **substrate** wherein the **surfactant** compound is not covalently linked to the **substrate**. The invention also relates to a **device** for adhering a **biomol**. in a predetd. position comprising: a **substrate** having thereon a plurality of cytophilic regions that can adhere a **biomol**. on the **substrate** by cytophobic regions to which the biomols. do not adhere contiguous with the cytophilic regions, wherein the cytophobic regions comprise one or more **surfactant** compds. Diagrams describing the methodol. are given.

L17 ANSWER 23 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:886553 HCAPLUS
DOCUMENT NUMBER: 136:32638
TITLE: Method for producing DNA-**arrays** for analysis of differential hybridization
INVENTOR(S): Fischer, Achim
PATENT ASSIGNEE(S): BASF-Lynx Bioscience AG, Germany; Axaron Bioscience AG
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001092568	A2	20011206	WO 2001-EP6248	20010601
WO 2001092568	A3	20030605		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 10027040	A1	20011206	DE 2000-10027040	20000602

PRIORITY APPLN. INFO.: DE 2000-10027040 A 20000602
OTHER SOURCE(S): MARPAT 136:32638
AB The invention relates to a method for analyzing nucleic acids. A surface is provided with islands of DNA of the same variety, i.e. tertiary nucleic acids; the tertiary nucleic acids are brought into contact with a probe or a mixture of several probes to enable hybridization to occur between the tertiary nucleic acids and the probe or probes; the tertiary nucleic acids and/or probes which are localized at points where a differential hybridization event occurs are separated from other nucleic acids and/or probes where no differential hybridization event is localized. To allow separation of tertiary nucleic acids representing the differential hybridization event, the surface is initially coated with cleavable primers. In subsequent steps these primers are used to create the tertiary nucleic acids which function as hybridization partners for differential hybridization analyses. The primer may contain a **photocleavable group**, e.g., a derivative of 4-hydroxy-5-methoxy-2-nitrobenzyl alc.

L17 ANSWER 24 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:598434 HCAPLUS
DOCUMENT NUMBER: 135:177719

TITLE: Target molecule attachment to surfaces
INVENTOR(S): Chappa, Ralph A.; Hu, Sheau-Ping; Swan, Dale G.; Swanson, Melvin J.; Guire, Patrick E.
PATENT ASSIGNEE(S): Surmodics, Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 26 pp., Cont.-in-part of U.S. 5,858,653.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2001014448	A1	20010816	US 1999-227913	19990108
US 6465178	B2	20021015		
US 5858653	A	19990112	US 1997-940213	19970930
CA 2360000	AA	20000713	CA 2000-2360000	20000110
WO 2000040593	A2	20000713	WO 2000-US535	20000110
WO 2000040593	A3	20001228		
W: AU, CA, JP, MX				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1141385	A2	20011010	EP 2000-903199	20000110
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002534663	T2	20021015	JP 2000-592301	20000110
US 2003113792	A1	20030619	US 2000-521545	20000309
US 2003148308	A1	20030807	US 2002-192917	20020709

PRIORITY APPLN. INFO.:
US 1997-940213 A2 19970930
US 1999-227913 A 19990108
WO 2000-US535 W 20000110

AB Method and reagent composition for covalent attachment of target mols., such as nucleic acids, onto the surface of a substrate are described. The reagent composition includes groups capable of covalently binding to the target mol. Optionally, the composition can contain **photoreactive groups** for use in attaching the reagent composition to the surface. The reagent composition can be used to provide activated slides for use in preparing **microarrays** of nucleic acids. Glass slides coated with a copolymer of acrylamide, N-[3-(4-benzoylbenzamido)propyl]methacrylamide (BBA-APMA), and N-succinimidyl 6-maleimidohexanoate (MAL-EAC-NOS) (preparation given) were reacted with amine-modified PCR products from the β-galactosidase gene using **microarraying** spotting pins.

L17 ANSWER 25 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:811317 HCAPLUS
DOCUMENT NUMBER: 134:94778
TITLE: Liquid flow through an **array**-based chemical sensing system
AUTHOR(S): Sohn, Young-Soo; Tsao, Andrew; Anslyn, Eric V.; McDevitt, John Thomas; Shear, Jason B.; Neikirk, Dean P.
CORPORATE SOURCE: Department of Electrical and Computer Engineering, The University of Texas at Austin, Austin, TX, 78712, USA
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2000), 4177(Microfluidic Devices and Systems III), 212-219
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal

LANGUAGE: English

AB A micromachined fluidic sensor **array** for the rapid characterization of multiple **analytes** in solution was developed. A simple micromachined fluidic structure for this biol. and chemical agent detection system was designed and fabricated, and the system was tested. Sensing occurs via optical changes to indicator mols. that are attached to polymeric microspheres (beads). A sep. charged-coupled- **device** (CCD) is used for the simultaneous acquisition of the optical data from the selectively arranged beads in micromachined etch cavities. The micromachined bead support structure was designed to be compatible wit this hybrid optical detection system. The structure consists of four layers: cover glass, micromachined silicon, dry film **photoresist** , and glass **substrate**. The bottom three layers are fabricated 1st, and the beads are selectively placed into micromachined etch cavities. Finally, the cover glass is applied to confine the beads. This structure uses a **hydrophilic surface** of the cover glass to draw a liquid sample into the sensor **array** without moving components, producing a compact, reliable, and potentially low-cost **device**. The authors have initially characterized fluid flow through a complete chip, showing complete filling of the sample chamber in .apprx.2 s. The test results show that this system may be useful in micro total **anal**. systems (μ-TAS), especially in single-use biomedical applications.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 26 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:475675 HCAPLUS

DOCUMENT NUMBER: 133:100417

TITLE: Thermochemically reactive and photoactive polymers and their use in preparation of nucleic acid **microarrays**

INVENTOR(S): Chappa, Ralph A.; Hu, Sheau-Ping; Swan, Dale G.; Swanson, Melvin J.; Guire, Patrick E.

PATENT ASSIGNEE(S): Surmodics, Inc., USA

SOURCE: PCT Int. Appl., 64 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000040593	A2	20000713	WO 2000-US535	20000110
WO 2000040593	A3	20001228		
W: AU, CA, JP, MX				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 2001014448	A1	20010816	US 1999-227913	19990108
US 6465178	B2	20021015		
CA 2360000	AA	20000713	CA 2000-2360000	20000110
EP 1141385	A2	20011010	EP 2000-903199	20000110
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002534663	T2	20021015	JP 2000-592301	20000110

PRIORITY APPLN. INFO.:
US 1999-227913 A 19990108
US 1997-940213 A2 19970930
WO 2000-US535 W 20000110

AB Method and reagent composition for covalent attachment of target mols., such as

nucleic acids, onto the surface of a substrate. The reagent composition includes groups capable of covalently binding to the target mol. Optionally, the composition can contain **photoreactive groups** for use in attaching the reagent composition to the surface. The reagent composition can be used to provide activated slides for use in preparing **microarrays** of nucleic acids. Thus, numerous copolymers containing various combinations of photoreactive, chemical reactive (e.g., esters), or ionic side chains were prepared and used to prepare DNA **microarrays** on glass slides or on plastic microtiter plates. For example, well in a polystyrene microwell plate were coated with a copolymer of acrylamide, [3-(methacryloylamino)propyl]trimethylammonium chloride, N-succinimidyl-6-methacrylamidohexanoate, and N-[3-(4-benzoylbenzamido)propyl]methacrylamide. The coated plate was used to immobilize an amino-modified oligodeoxyribonucleotide, and the immobilized DNA was used in a hybridization assay. Significant binding and good hybridization signals were observed

L17 ANSWER 27 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:258571 HCAPLUS
DOCUMENT NUMBER: 133:14211
TITLE: Integration of layered redox proteins and conductive supports for bioelectronic applications
AUTHOR(S): Willner, Itamar; Katz, Eugenii
CORPORATE SOURCE: Institute of Chemistry, The Hebrew University of Jerusalem, Jerusalem, 91904, Israel
SOURCE: Angewandte Chemie, International Edition (2000), 39(7), 1181-1218
CODEN: ACIEF5; ISSN: 1433-7851
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB Integration of redox enzymes with an electrode support and formation of an elec. contact between the biocatalysts and the electrode is the fundamental subject of bioelectronics and optobioelectronics. This review, with 254 refs., addresses the recent advances and the scientific progress in elec. contacted, layered enzyme electrodes, and discusses the future applications of the systems in various bioelectronic devices, for example, amperometric biosensors, sensoric **arrays**, logic gates, and optical memories. This review presents the methods for the immobilization of redox enzymes on electrodes and discusses the covalent linkage of proteins, the use of supramol. affinity complexes, and the reconstitution of apo-redox enzymes for the nanoengineering of electrodes with protein monolayers of electrodes with protein monolayers and multilayers. Elec. contact in the layered enzyme electrode is achieved by the application of diffusional electron mediators, such as ferrocene derivs., ferricyanide, quinones, and bipyridinium salts. Covalent tethering of electron relay units to layered enzyme electrodes, the crosslinking of affinity complexes formed between redox proteins and electrodes functionalized with relay-cofactor units, or surface reconstitution of apo-enzymes on relay-cofactor-functionalized electrodes yield bioelectrocatalytic electrodes. The application of the functionalized electrodes as biosensor devices is addressed and further application of elec. "wired" enzymes as catalytic interfaces in biofuel cells is discussed. The organization of sensor **arrays**, self-calibrated biosensors, or gated bioelectronic devices requires the microstructuring of biomaterials on solid supports in the form of ordered micro-patterns. For example, light-sensitive layers composed of azides, benzophenone, or diazine derivs. associated with solid supports can be irradiated through masks to enable the patterned covalent linkage of biomaterials to surfaces. Alternatively, patterning of biomaterials can

be accomplished by noncovalent interactions (such as in affinity complexes between avidin and a photolabeled biotin, or between an antibody and a photoisomerizable antigen layer) to provide a means of organizing protein microstructures on surfaces. The organization of patterned hydrophilic/hydrophobic domains on surfaces, by using photolithog., stamping, or micromachining methods, allows the selective patterning of surfaces by hydrophobic, noncovalent interactions. Photoactivated layered enzyme electrodes act as light-switchable optobioelectronic systems for the amperometric transduction of recorded photonic information. These systems can act as optical memories, biomol. amplifiers, or logic gates. The photoswitchable enzyme electrodes are generated by the tethering of **photoisomerizable groups** to the protein, the reconstitution of apo-enzymes with semisynthetic photoisomerizable cofactor units, or the coupling of photoisomerizable electron relay units.

REFERENCE COUNT: 74 THERE ARE 74 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 28 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:27767 HCAPLUS
DOCUMENT NUMBER: 130:78461
TITLE: Method and **apparatus** for electrospraying solutions of (bio)substances for mass fabrication of chips and libraries
INVENTOR(S): Morozov, Victor N.; Morozova, Tamara Ya.
PATENT ASSIGNEE(S): New York University, USA
SOURCE: PCT Int. Appl., 112 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9858745	A1	19981230	WO 1998-US12768	19980619
W: AU, CA, JP, NZ, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9880743	A1	19990104	AU 1998-80743	19980619
AU 747022	B2	20020509		
EP 988112	A1	20000329	EP 1998-929102	19980619
R: AT, BE, CH, DE, FR, GB, LI, SE				
JP 2002511792	T2	20020416	JP 1999-504841	19980619
NZ 502246	A	20021025	NZ 1998-502246	19980619
US 6350609	B1	20020226	US 2000-446188	20000508
US 2002048770	A1	20020425	US 2001-986334	20011108
US 2003150739	A1	20030814	US 2003-376668	20030303

PRIORITY APPLN. INFO.:

US 1997-50274P	P	19970620
US 1997-55287P	P	19970813
WO 1998-US12768	W	19980619
US 2000-446188	A3	20000508
US 2001-986334	A3	20011108

AB Described is a method of fabricating deposits of nonvolatile substances, including biomacromols., in the form of spots and films on a **substrate surface** by electrospray, where the deposits are used to determine the interaction of the deposited nonvolatile substances to other substances. Also included in this method is the mass fabrication on a single chip of an **array** of single and multicomponent microsamples. The invention also provides an **apparatus** for fabricating samples of nonvolatile substances by electrospray, as well as

the sample product formed by the electrospray method. Alkaline phosphatase and peroxidase were electrosprayed through holes in a polypropylene mask onto a **surface** of a **slightly** wetted nitrocellulose filter. The enzyme activity of both proteins were retained after the deposition.

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 29 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:199639 HCAPLUS
DOCUMENT NUMBER: 128:264879
TITLE: Semiconductor memory devices and fabrication thereof
INVENTOR(S): Yagi, Koji
PATENT ASSIGNEE(S): NEC Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10084093	A2	19980331	JP 1996-238231	19960909
JP 2940484	B2	19990825		

PRIORITY APPLN. INFO.: JP 1996-238231 19960909

AB The title memory devices comprise a memory cell region having a memory cell **array** provided on a semiconductor substrate, a peripheral region for controlling the memory cells, a word wire contact region provided on the memory/peripheral **border region**, and upper circuits. The word wire contact region comprises a 1st diffusion layer formed on the **border region**, and oxidation-enhancing film formed on the diffusion layer, word wires provided on the oxidation-enhancing film and connected from the memory cells, contact holes formed on the word wires, and upper circuits connected to the word wires through the contact holes. The title fabrication provides forming source/drain diffusion regions followed by forming gate electrodes by photoresist. The fabrication arrangement prevents short circuiting between word wires by decreasing size deviation between the memory cell gate electrode pattern and the boundary word contact wire pattern.

L17 ANSWER 30 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:37546 HCAPLUS
DOCUMENT NUMBER: 124:138958
TITLE: Structural model of a synthetic Ca2+ channel with bound Ca2+ ions and dihydropyridine ligand
AUTHOR(S): Zhorov, Boris S.; Ananthanarayanan, Vettai S.
CORPORATE SOURCE: Dep. Biochemistry, McMaster University, Hamilton, ON, L8N 3Z5, Can.
SOURCE: Biophysical Journal (1996), 70(1), 22-37
CODEN: BIOJAU; ISSN: 0006-3495
PUBLISHER: Biophysical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Grove et al., have demonstrated L-type Ca2+ channel activity of a synthetic channel peptide (SCP) composed of four helixes (sequence: DPWNVFDFLI10VIGSIIDVIL20SE) tethered by their C-termini to a nonapeptide template. We sought to obtain the optimal conformations of SCP and locate the binding sites for Ca2+ and for the dihydropyridine ligand nifedipine. Eight Ca2+ ions were added to neutralize the 16 acidic residues in the

helixes. Eight patterns of the salt bridges between Ca2+ ions and pairs of the acidic residues were calculated by the Monte Carlo-with-energy-minimization (MCM) protocol. In the energetically optimal conformation, two Ca2+ ions were bound to Asp-1 residues at the intracellular side of SCP, and six Ca2+ ions were **arrayed** in two files at the diametrically opposite sides of the pore, implying a Ca2+ relay mechanism. Nine modes of nifedipine binding to SCP were simulated by the MCM calcns. In the energetically optimal mode, the ligand fits snugly in the pore. The complex is stabilized by Ca2+ bound between two Asp-17 residues and hydrophilic groups of the ligand. The latter substitute water mols. adjacent to Ca2+ in the ligand-free pore and thus do not obstruct Ca2+ ions. The bracelet may thus act as a gate in SCP. Nifedipine and (R)-Bay K 8644, which act as blockers of the SCP, extend a side-chain **hydrophobic moiety** toward the Ile-10 residues. This would stabilize the pore-closing conformation of the gate. In contrast, the channel activator (S)-Bay K 8644 exposes a hydrophilic moiety toward the Ile-10 residues, thus destabilizing the pore-closing conformation of the gate.

L17 ANSWER 31 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:329513 HCAPLUS
DOCUMENT NUMBER: 122:213331
TITLE: Large rate accelerations in antibody catalysis by strategic use of haptenic charge
AUTHOR(S): Thorn, Simon N.; Daniels, Richard G.; Auditor, Maria-Teresa M.; Hilvert, Donald
CORPORATE SOURCE: Departments of Chemistry and Molecular Biology, The Scripps Research Inst., La Jolla, CA, 92037, USA
SOURCE: Nature (London) (1995), 373(6511), 228-30
CODEN: NATUAS; ISSN: 0028-0836
PUBLISHER: Macmillan Magazines
DOCUMENT TYPE: Journal
LANGUAGE: English

AB General acid-base catalysis contributes substantially to the efficacy of many enzymes, enabling an impressive **array** of eliminations, isomerizations, racemizations, hydrolyses and carbon-carbon bond-forming reactions to be carried out with high rates and selectivities. The fundamental challenge of exploiting similar effects in designed catalytic antibodies is that of correctly positioning the **catalytic groups** in an appropriate active-site microenvironment. Charge complementarity between antibody and hapten (the template used to induce an antibody) has been used successfully in a number of instances to elicit acids and bases within Ig combining sites, but the activities of the catalysts obtained by this strategy are generally considerabΛy lower than those of natural enzymes. Here we report that by optimizing hapten design and efficiently screening the immune response, antibodies can be obtained that act effectively as general base catalysts. Thus a cationic hapten correctly mimicking the transition-state geometry of all reacting bonds and bearing little resemblance to the reaction product has yielded carboxylate-containing antibodies that catalyze an E2 elimination with more than 103 turnovers per active site and rate accelerations of greater than 108. These results demonstrate that very large effects can be achieved by strategic use of haptenic charge.

L17 ANSWER 32 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:569124 HCAPLUS
DOCUMENT NUMBER: 121:169124
TITLE: Fabrication of Patterned Sensor **Arrays** with Aryl Azides on a Polymer-Coated Imaging Optical Fiber Bundle

AUTHOR(S): Bronk, Karen S.; Walt, David R.
CORPORATE SOURCE: Department of Chemistry, Tufts University, Medford, MA, 01255, USA
SOURCE: Analytical Chemistry (1994), 66(20), 3519-20
CODEN: ANCHAM; ISSN: 0003-2700
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Arrays** of sensing regions are photodeposited on the distal tip of a single imaging optical fiber. First, the distal surface of the fiber is spin-coated with a thin film of poly(hydroxyethyl methacrylate). The fluorophore is then derivatized with a **photoreactive group** and subsequently immobilized in a finite area of the film by discrete illumination. Dye incorporation occurs only in the illuminated areas, creating distinct regions of analyte-sensitive fluorescent dye at the fiber's distal end. This paper describes both the chemical and the manipulations required to make an optical **microarray** and demonstrates the technique with pH sensors. The fabrication of a 4-sensor **array** is described along with performance data.

L17 ANSWER 33 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1991:508973 HCAPLUS
DOCUMENT NUMBER: 115:108973
TITLE: At the crossroads of chemistry and immunology: catalytic antibodies
AUTHOR(S): Lerner, Richard A.; Benkovic, Stephen J.; Schultz, Peter G.
CORPORATE SOURCE: Dep. Chem., Scripps Res. Inst., La Jolla, CA, 92037, USA
SOURCE: Science (Washington, DC, United States) (1991), 252(5006), 659-67
CODEN: SCIEAS; ISSN: 0036-8075
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with 90 refs., of the generation and use of catalytic antibodies and of the wide **array** of chemical reactions that they catalyze. In some cases, rates approaching those of enzymes have been achieved, but typically the antibody-catalyzed reactions proceed with rates 103-106 faster than the uncatalyzed reaction. The generation and use of antibodies (1) to stabilize neg. and pos. charged transition states, (2) as entropic traps, and (3) with **catalytic groups** and cofactors in their combining sites are discussed.

L17 ANSWER 34 OF 34 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1976:505984 HCAPLUS
DOCUMENT NUMBER: 85:105984
TITLE: Proton translocating ATPase of a thermophilic bacterium. Morphology, subunits, and chemical composition
AUTHOR(S): Kagawa, Yasuo; Sone, Nobuhito; Yoshida, Masasuke; Hirata, Hajime; Okamoto, Harumasa
CORPORATE SOURCE: Dep. Biochem., Jichi Med. Sch., Tochigi, Japan
SOURCE: Journal of Biochemistry (Tokyo, Japan) (1976), 80(1), 141-51
CODEN: JOBIAO; ISSN: 0021-924X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A stable membrane-bound ATPase (TF0.F1), capable of proton translocation in reconstituted vesicles ws purified from the thermophilic bacterium PS3 cultured in media containing L-[U-14C]amino acids. TF0.F1 was composed of a catalytic moiety (TF1) and a **hydrophobic moiety**

(TF.vphi.). TF1 contained 3 polypeptide chains with mol. wts. of 6000, 3 of 53,000, 1 of 32,000, 1 of 15,500, and 1 of 11,000. TF0 contained 1 chain of 19,000, 2 of 13,500, and 5 of 5400 daltons. TF1 was dissociated into subunits much less readily than F1. TF consisted of 95 Å particles **arrayed** in hexagonal microcrystals. TF0.F1 consisted of a sphere (TF1) and a stalk plus base (TF0) which was buried in the membrane of the proton-translocating vesicles. Vesicles capable of energy transformation were formed when TF1 came in contact with the surface of liposomes containing TF0. On addition of phospholipids, the helix content of TF0 increased 3-fold. The role of F0 in forming channels for protons is discussed. The amino acid compns. of TF0, TF1, and TF0.F1 were compared. TF0 was not hydrophobic, despite its interaction with phospholipids. The phospholipid composition and other properties of the proton-translocating vesicles were examined Vesicles reconstituted from a mixture of phosphatidylethanolamine, phosphatidylglycerol, and cardiolipin in the same ratio as in the membranes had the highest activity.

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L2             8 SEA FILE=HCAPLUS ABB=ON  L1 AND (?IMMOBIL? OR ?BORDER?)(W)?REGI
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L3            20 SEA FILE=HCAPLUS ABB=ON  L1 AND ((?HYDROPHOBIC? OR ?CONVERT?)(W
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                  OR ?PHOTOREACT?)(W)?GROUP?)
L4            28 SEA FILE=HCAPLUS ABB=ON  L2 OR L3
L9         36181 SEA FILE=HCAPLUS ABB=ON  L1 AND (?DEVIC? OR ?MECHANIS? OR
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L10         8833 SEA FILE=HCAPLUS ABB=ON  L9 AND (?ANALYT? OR ?MOLECUL?)
L11          468 SEA FILE=HCAPLUS ABB=ON  L10 AND (?BIOMOLEC? OR ?ANALYTES?)
L13          248 SEA FILE=HCAPLUS ABB=ON  L11 AND (?SUBSTRAT? OR ?SURFAC?)
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L16            6 SEA FILE=HCAPLUS ABB=ON  L14 AND (?PHOTO? OR ?LIGHT?)
L17           34 SEA FILE=HCAPLUS ABB=ON  L4 OR L16
L18           89 SEA L17
L19           79 DUP REMOV L18 (10 DUPLICATES REMOVED)
L20           14 SEA L19 AND (PHOTOCLEAV? OR PHOTOISOMERISM? OR CATALYTIC?(W)
                  ?POLYMERIZ? OR PHOTOREACT?)

=> d ibib abs l20 1-14

L20  ANSWER 1 OF 14      MEDLINE on STN
ACCESSION NUMBER:    95068991      MEDLINE
DOCUMENT NUMBER:     PubMed ID: 7978321
TITLE:               Fabrication of patterned sensor arrays with aryl
                     azides on a polymer-coated imaging optical fiber bundle.

AUTHOR:              Bronk K S; Walt D R
CORPORATE SOURCE:    Max Tishler Laboratory for Organic Chemistry, Department of
                     Chemistry, Tufts University, Medford, Massachusetts 02155.

CONTRACT NUMBER:     GM-48142 (NIGMS)
SOURCE:              Analytical chemistry, (1994 Oct 15) 66 (20) 3519-20.
                     Journal code: 0370536. ISSN: 0003-2700.

PUB. COUNTRY:        United States
DOCUMENT TYPE:       Journal; Article; (JOURNAL ARTICLE)
LANGUAGE:            English
FILE SEGMENT:        Priority Journals
ENTRY MONTH:         199412
ENTRY DATE:          Entered STN: 19950110
                     Last Updated on STN: 19950110
                     Entered Medline: 19941222

AB   Arrays of sensing regions are photodeposited on the distal tip
     of a single imaging optical fiber.  First, the distal surface of the fiber
     is spin-coated with a thin film of poly(hydroxyethyl methacrylate).  The
     fluorophor is then derivatized with a photoreactive
     group and subsequently immobilized in a finite area of the film by
     discrete illumination.  Dye incorporation occurs only in the illuminated
     areas, creating distinct regions of analyte-sensitive fluorescent dye at
     the fiber's distal end.  This paper describes both the chemistry and the
     manipulations required to make an optical microarray and
     demonstrates the technique with pH sensors.  The fabrication of a
     four-sensor array is described along with performance data.

L20  ANSWER 2 OF 14  BIOSIS  COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER:    2002:620212  BIOSIS
DOCUMENT NUMBER:     PREV200200620212
TITLE:               Target molecule attachment to surfaces.
AUTHOR(S):           Chappa, Ralph A. [Inventor]; Hu, Sheau-Ping [Inventor];
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Swan, Dale G. [Inventor, Reprint author]; Swanson, Melvin J. [Inventor]; Guire, Patrick E. [Inventor]
CORPORATE SOURCE: St. Louis Park, MN, USA
ASSIGNEE: Surmodics, Inc.
PATENT INFORMATION: US 6465178 October 15, 2002
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (Oct. 15, 2002) Vol. 1263, No. 3. http://www.uspto.gov/web/menu/patdata.html. e-file.
CODEN: OGUPE7. ISSN: 0098-1133.
DOCUMENT TYPE: Patent
LANGUAGE: English
ENTRY DATE: Entered STN: 4 Dec 2002
Last Updated on STN: 4 Dec 2002

AB Method and reagent composition for covalent attachment of target molecules, such as nucleic acids, onto the surface of a substrate. The reagent composition includes groups capable of covalently binding to the target molecule. Optionally, the composition can contain **photoreactive groups** for use in attaching the reagent composition to the surface. The reagent composition can be used to provide activated slides for use in preparing **microarrays** of nucleic acids.

L20 ANSWER 3 OF 14 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 2003-708527 [67] WPIDS
CROSS REFERENCE: 2002-330063 [36]
DOC. NO. NON-CPI: N2003-566171
DOC. NO. CPI: C2003-195336
TITLE: Generation of a **microarray** by applying a reagent solution containing receptor molecules to a solid support to form a first applied spot pattern, and illuminating the spot pattern to immobilize the receptor molecules.
DERWENT CLASS: B04 D16 P42 S03
INVENTOR(S): GUIRE, P E; SWANSON, M J
PATENT ASSIGNEE(S): (GUIR-I) GUIRE P E; (SWAN-I) SWANSON M J; (SURM-N) SURMODICS INC
COUNTRY COUNT: 102
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2003082604	A1	20030501	(200367)*		19
WO 2004020085	A1	20040311	(200419)	EN	

RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2003082604	A1 CIP of	US 2000-670766	20000927
		US 2002-233071	20020830
WO 2004020085	A1	WO 2003-US9795	20030401

PRIORITY APPLN. INFO: US 2002-233071 20020830; US 2000-670766 20000927

AN 2003-708527 [67] WPIDS
CR 2002-330063 [36]
AB US2003082604 A UPAB: 20040318
NOVELTY - A **microarray** is generated by applying a reagent solution containing receptor molecules to a solid support to form a first applied spot pattern, which is then illuminated to immobilize the receptor molecules to the solid support in a first immobilized spot pattern.

DETAILED DESCRIPTION - Generation of a **microarray** comprises applying a reagent solution containing receptor molecules to a solid support to form a first applied spot pattern, which is then illuminated to immobilize the receptor molecules to the solid support in a first immobilized spot pattern. The reagent solution, receptor molecules, and/or solid support include **photoreactive group**. The area of the spots in the first immobilized spot pattern is less than that of spots in the first applied spot pattern.

USE - The method is for generating a **microarray** (claimed).

ADVANTAGE - The method generates high density **microarray**. It provides immobilized reagent spots having smaller diameter than the original printed spot. It only needs one mask, thus providing significant reduction in the cost of manufacture of the high-density **arrays** compared to photolithographic in situ solid phase synthesis, which requires multiple masks. It also immobilizes longer nucleic acid sequences than the conventional method.

Dwg.1/3

L20 ANSWER 4 OF 14 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

ACCESSION NUMBER:	2003-481958 [45] WPIDS
DOC. NO. NON-CPI:	N2003-383363
DOC. NO. CPI:	C2003-128694
TITLE:	Detecting a target e.g. a nucleic acid in a sample, by using **arrays** utilizing microparticles containing a self-encoding marker.
DERWENT CLASS:	A89 B04 D16 P42 S03
INVENTOR(S):	GUIRE, P E; TATON, K S; WALL, J V
PATENT ASSIGNEE(S):	(SURM-N) SURMODICS INC
COUNTRY COUNT:	101

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2003031979	A1	20030417	(200345)*	EN	67
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW					
US 2003073086	A1	20030417	(200345)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2003031979	A1	WO 2002-US31740	20021004
US 2003073086	A1	US 2001-972687	20011005

PRIORITY APPLN. INFO: US 2001-972687 20011005
AN 2003-481958 [45] WPIDS
AB WO2003031979 A UPAB: 20030716
NOVELTY - Detecting (M1) target in sample involves:
(a) providing **array** comprising substrate and several microparticles (MPs) immobilized on substrate (each MP comprises self-encoding marker (SEM) and probe coupled to MP, and each SEM and probe comprises unique SEM/probe pair);
(b) applying sample to **array** to allow binding of target to probe; and
(c) detecting SEM coupled to MP and target marker associated with MP.
DETAILED DESCRIPTION - Detecting (M1) a target in a sample, involves:
(a) providing an **array** comprising, a substrate, and several MPs randomly immobilized on the substrate by an immobilization material (each MP comprises a SEM and a probe coupled to the MP, and each SEM and probe comprises a unique SEM/probe pair, and the probe is configured and arranged to specifically bind the target);
(b) applying the sample suspected of containing the target to the **array**;
(c) maintaining the sample and **array** under conditions to allow binding of the target to the probe; and
(d) detecting SEM coupled to MP and a target marker associated with MP.
INDEPENDENT CLAIMS are also included for:
(1) fabricating (M2) an **array**, involves:
(a) preparing a mixture having several MPs, coating a substrate (102), and optionally the MP, with an immobilization material;
(b) disposing the mixture having several MPs on the substrate (the MPs become immobilized in a random pattern on the substrate by the immobilization material); and
(2) an **array** involves a substrate, several MPs randomly immobilized on the substrate, and an immobilization material which immobilizes the MPs on the substrate.
USE - (M1) is useful for detecting a target in a sample, where the target is a nucleic acid or a molecule specifically recognized by an antibody.
(M2) is useful for fabricating an **array** (claimed).
DESCRIPTION OF DRAWING(S) - The figure shows the schematic diagram of an **array** and method for preparing an **array**.
Substrate 102
Mask 106
Patterned substrate. 108
Dwg.1/7

L20 ANSWER 5 OF 14 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 2003-468181 [44] WPIDS
DOC. NO. NON-CPI: N2003-372666
DOC. NO. CPI: C2003-124770
TITLE: **Array** for detecting target in a sample, has substrate and clustered arrangement of microparticles immobilized in a matrix on substrate, with each microparticle coupled to a probe which is configured to bind target.
DERWENT CLASS: A89 B04 D16 P42 S03
INVENTOR(S): GUIRE, P E; TATON, K S
PATENT ASSIGNEE(S): (SURM-N) SURMODICS INC
COUNTRY COUNT: 101
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG

WO 2003031054 A2 20030417 (200344)* EN 49
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU
MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT
RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM
ZW
US 2003099949 A1 20030529 (200344)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2003031054	A2	WO 2002-US31707	20021004
US 2003099949	A1	US 2001-972116	20011005

PRIORITY APPLN. INFO: US 2001-972116 20011005
AN 2003-468181 [44] WPIDS
AB WO2003031054 A UPAB: 20030710
NOVELTY - An **array** (I), comprises a substrate and at least one clustered arrangement of microparticles comprising a number of microparticles immobilized in a matrix on the substrate, where microparticle in each group comprises a probe coupled to the microparticle, where the probe is configured and arranged to specifically bind a target.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for making (I), by preparing at least one slurry comprising a matrix-forming material, and a number of microparticles, where the microparticles of each group comprise a probe coupled to the microparticle, where the probe is configured and arranged to specifically bind a target, disposing the slurry on a substrate to form at least one clustered arrangement of microparticles, and treating the slurry so that matrix-forming material forms a matrix, where the microparticles become immobilized in the matrix of the clustered arrangement on the substrate.

USE - (I) Is useful for detecting a target in a sample, by applying a sample suspected of containing the target to (I), maintaining the sample and (I) under conditions to allow binding of the target to the probe, and detection the target marker coupled to the target and associated with the clustered arrangement, and the location of the clustered arrangement, thus determining the presence or amount of the target in the sample (claimed).

DESCRIPTION OF DRAWING(S) - The figure shows the schematic diagram of a coating of microparticles in a matrix, immobilized on a substrate.
Dwg.1/5

L20 ANSWER 6 OF 14 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 2002-740188 [80] WPIDS
CROSS REFERENCE: 2000-161175 [14]; 2000-171289 [15]; 2002-204455 [26]; 2002-470037 [50]; 2003-102151 [09]; 2003-147436 [14]; 2003-361463 [34]; 2003-491944 [46]; 2004-040456 [04]
DOC. NO. NON-CPI: N2002-583152
DOC. NO. CPI: C2002-209561
TITLE: **Array** device for analyzing molecular events between biomolecules and analytes, comprises substrate having **immobilization regions** surrounded by **border regions.**
DERWENT CLASS: B04 D16 S03
INVENTOR(S): WAGNER, P

PATENT ASSIGNEE(S): (WAGN-I) WAGNER P
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2002119579	A1	20020829	(200280)*		36

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2002119579	A1 CIP of	US 1998-115455	19980714
	CIP of	US 1999-353555	19990714
		US 2001-966571	20010926

FILING DETAILS:

PATENT NO	KIND	PATENT NO
US 2002119579	A1 CIP of	US 6329209
	CIP of	US 6406921

PRIORITY APPLN. INFO: US 2001-966571 20010926; US 1998-115455 19980714; US 1999-353555 19990714

AN 2002-740188 [80] WPIDS
CR 2000-161175 [14]; 2000-171289 [15]; 2002-204455 [26]; 2002-470037 [50]; 2003-102151 [09]; 2003-147436 [14]; 2003-361463 [34]; 2003-491944 [46]; 2004-040456 [04]
AB US2002119579 A UPAB: 20040115
NOVELTY - An **array** device for analyzing molecular events between biomolecules and analytes, comprising a substrate having **immobilization regions** surrounded by **border regions**, is new.

DETAILED DESCRIPTION - An **array** device for analyzing molecular events between biomolecules and analytes, comprises a substrate (3); **immobilization regions** formed on the known regions of the substrate's surface(s) and adapted for attaching the biomolecules to the surface; and **border region**(s) formed on the surface surrounding the **immobilization regions**. The **border region**(s) has a first wettable state and a selectively achievable second wettable state different from the first wettable state.

An INDEPENDENT CLAIM is also included for a method for making an **array** of biomolecules for use in analyzing molecular events between the biomolecules and analytes, comprising:

(a) providing the **array** of device;

(b) depositing a first liquid containing biomolecules onto a selected **immobilization region** such that the first liquid deposited is maintained within the selected region in-part by the first wettable state of the **border regions**;

(c) allowing the biomolecule(s) contained in the deposited first liquid to attach to the surface within the selected **immobilization region**;

(d) removing the first liquid from the selected **immobilization region**; and

(e) activating the **border region**(s) partly or wholly maintaining the first liquid within the selected **immobilization regions** such that such **border**

regions partly or wholly maintaining the liquid within the selected **immobilization regions** no longer are capable of maintaining the first liquid, or a second liquid within the selected **immobilization region.**

USE - For analyzing molecular events between biomolecules and analytes, such as, in proteomic applications including assessing patterns of protein expression and modification in cells.

ADVANTAGE - The invention is capable to assay in parallel a multitude of proteins expressed by a cell or population of cells in an organisms, including up to the total protein content of a cell.

DESCRIPTION OF DRAWING(S) - The figure shows a top view of an **array** of patches reactive towards protein-capture agents.

Substrate 3

Dwg.1/10

L20 ANSWER 7 OF 14 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

ACCESSION NUMBER: 2002-501930 [54] WPIDS

DOC. NO. CPI: C2002-142605

TITLE: Large scale production of patterned active surfaces comprising preparing a polyfunctional polymer film with patterned **arrays** of probe molecules via an interaction with the functional groups, and fixing to a solid surface.

DERWENT CLASS: A89 B04 D16

INVENTOR(S): KLAPPROTH, H; WAGNER, G; RUHE, J; RUEHE, J

PATENT ASSIGNEE(S): (BIOC-N) BIOCHIP TECHNOLOGIES GMBH; (KLAP-I) KLAPPROTH H; (RUHE-I) RUHE J; (WAGN-I) WAGNER G

COUNTRY COUNT: 97

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 1202062	A1	20020502	(200254)*	EN	12
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
WO 2002037110	A1	20020510	(200254)	EN	
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2002012351	A	20020515	(200258)		
JP 2004513344	W	20040430	(200430)		52
US 2004096849	A1	20040520	(200434)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 1202062	A1	EP 2000-123706	20001031
WO 2002037110	A1	WO 2001-EP12531	20011030
AU 2002012351	A	AU 2002-12351	20011030
JP 2004513344	W	WO 2001-EP12531	20011030
		JP 2002-539813	20011030
US 2004096849	A1	WO 2001-EP12531	20011030
		US 2003-415481	20030430

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2002012351	A	Based on	WO 2002037110
JP 2004513344	W	Based on	WO 2002037110

PRIORITY APPLN. INFO: EP 2000-123706 20001031
AN 2002-501930 [54] WPIDS
AB EP 1202062 A UPAB: 20020823
NOVELTY - Large scale production of patterned active surfaces for bioconjugation by preparing self-supporting film of polyfunctional polymer network, providing film with patterned **arrays** of the probe molecules, and fixing the film on solid surface, is new.
USE - The method is useful for large scale production of patterned active surfaces for bioconjunction. It can be applied in sensor or chromatographic systems or for the provision of modified surfaces (claimed).
ADVANTAGE - The method provides increased number of molecules interacting per surface unit compared to conventional monolayers of bifunctional molecules. The density of available interaction sites is higher than that obtained from the reaction of bifunctional polymers or oligomers with the surface. It is not limited to any particular surface material or shape.
Dwg.0/0

L20 ANSWER 8 OF 14 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 2002-416287 [44] WPIDS
DOC. NO. CPI: C2002-117415
TITLE: Obtaining nucleic acid ligand to target protein by systematic evolution of ligands by an exponential enrichment (SELEX) process, without directly purifying the target proteins.
DERWENT CLASS: B04 D16
INVENTOR(S): GOLD, L; SMITH, J D; ZICHI, D A
PATENT ASSIGNEE(S): (SOMA-N) SOMALOGIC INC; (GOLD-I) GOLD L; (SMIT-I) SMITH J D; (ZICH-I) ZICHI D A
COUNTRY COUNT: 97
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002024954	A1	20020328	(200244)*	EN	29
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW					
US 6376190	B1	20020423	(200244)		
AU 2001092757	A	20020402	(200252)		
US 2003044818	A1	20030306	(200320)		
US 6730482	B2	20040504	(200430)		

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 2002024954	A1		WO 2001-US29163	20010912
US 6376190	B1		US 2000-668602	20000922
AU 2001092757	A		AU 2001-92757	20010912
US 2003044818	A1	Cont of	US 2000-668602	20000922

		US 2002-96641	20020312
US 6730482	B2 Cont of	US 2000-668602	20000922
		US 2002-96641	20020312

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001092757	A Based on	WO 2002024954
US 2003044818	A1 Cont of	US 6376190
US 6730482	B2 Cont of	US 6376190

PRIORITY APPLN. INFO: US 2000-668602 20000922; US 2002-96641 20020312

AN 2002-416287 [44] WPIDS

AB WO 200224954 A UPAB: 20020711
NOVELTY - Generating (M1) nucleic acid (NA) ligands (I) to target protein (T) by systematic evolution of ligands by an exponential enrichment (SELEX) process, using, as SELEX targets, peptides corresponding in sequence to (T), is new. Candidate NA mixtures (II) are contacted with SELEX targets, and resulting (II) are enriched for (I) with affinity to (T).

DETAILED DESCRIPTION - Generating (M1) nucleic acid (NA) ligands (I) to target protein (T) by systematic evolution of ligands by an exponential enrichment (SELEX) process, using, as SELEX targets, peptides corresponding in sequence to (T), is new. Candidate NA mixtures (II) are contacted with SELEX targets, and resulting (II) are enriched for (I) with affinity to (T).

Generating (M1) (I) to a target protein, comprises:

(a) providing a peptide which comprises a linear amino acid sequence identical to at least a portion of the target protein;

(b) providing a (II);

(c) contacting (II) with the peptide, where NAs with an increased affinity to the peptide relative to the candidate mixture may be partitioned from the remainder of the candidate mixture;

(d) partitioning the increased affinity NAs from the remainder of the candidate mixture;

(e) amplifying the increased affinity NAs to yield a (II) enriched for NAs with relatively higher affinity and specificity for binding to the peptide;

(f) contacting the enriched candidate mixture with a complex mixture containing the target protein, where NAs with an increased affinity to the target protein relative to the enriched candidate mixture may be partitioned from the remainder of the candidate mixture;

(g) partitioning the increased affinity (I) from the remainder of the enriched candidate mixture; and

(h) amplifying the increased affinity NAs to yield a mixture of NAs enriched for NAs with relatively higher affinity and specificity for binding to the target proteins, where (I) to the target protein may be identified.

The method also comprises:

(a) identifying a NA ligand that photocrosslinks to a target protein by a photoSELEX process which involves contacting (II) with a peptide comprising a linear amino acid sequence identical to at least a portion of the target protein, where the nucleic acids with an increased affinity to the peptide relative to the candidate mixture form the nucleic acid-peptide complexes with the peptide;

(b) irradiating the nucleic acid-peptide complexes which are photocrosslinked, partitioning the photocrosslinked nucleic acid-peptide complexes from the candidate mixture;

(c) amplifying NAs that are photocrosslinked to the polypeptide to yield (II) enriched for NAs with relatively higher affinity and specificity for binding to the peptide, where **photoreactive groups** are incorporated into the nucleic acid during amplification;

(d) contacting the enriched candidate mixture with a complex preparation containing the target protein, where NAs with an increased affinity to the target protein relative to the enriched candidate mixture form the nucleic acid-target protein complexes with the target protein;

(e) irradiating the complexes that are photocrosslinked; and

(f) partitioning the photocrosslinked nucleic acid-target protein complexes from the enriched candidate mixture and identifying a ligand that photocrosslinks to the target protein.

USE - (M1) is useful for generating nucleic acid ligands to a target protein, or identifying nucleic acid ligands that photocrosslink to the target protein (claimed). Nucleic acid ligands identified by (M1) have greater utility in the field of biomedicine, and are useful as diagnostic and prognostic reagents, as novel therapeutics and as agents for the identification of novel therapeutic targets. The nucleic acid ligands are also used in a **microarray** format.

ADVANTAGE - The methods allow the generation of the nucleic acid ligands to protein targets that are not generally available in purified form, but for which at least a partial cDNA or genomic sequence is known. The method may be automated to allow high-throughput generation of nucleic acid ligands with little operator intervention.

Dwg.0/0

L20 ANSWER 9 OF 14 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 2002-330063 [36] WPIDS
CROSS REFERENCE: 2003-708527 [67]
DOC. NO. CPI: C2002-095516
TITLE: Generating high-density **microarrays** using **photoreactive groups** and illumination to immobilize nucleic acids onto solid supports, useful e.g. in nucleic acid analysis.
DERWENT CLASS: B04 D16
INVENTOR(S): GUIRE, P E; SWANSON, M J
PATENT ASSIGNEE(S): (SURM-N) SURMODICS INC
COUNTRY COUNT: 97
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002026376	A2	20020404	(200236)*	EN	26
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW					
AU 2001088960	A	20020408	(200252)		
EP 1326707	A2	20030716	(200347)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR					
JP 2004510147	W	20040402	(200424)		52

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE

WO 2002026376	A2	WO 2001-US28216	20010906
AU 2001088960	A	AU 2001-88960	20010906
EP 1326707	A2	EP 2001-968731	20010906
		WO 2001-US28216	20010906
JP 2004510147	W	WO 2001-US28216	20010906
		JP 2002-530198	20010906

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001088960	A	Based on	WO 2002026376
EP 1326707	A2	Based on	WO 2002026376
JP 2004510147	W	Based on	WO 2002026376

PRIORITY APPLN. INFO: US 2000-670766 20000927
AN 2002-330063 [36] WPIDS
CR 2003-708527 [67]
AB WO 200226376 A UPAB: 20040408
NOVELTY - A method for generating high-density **microarrays**, comprising a printing and illumination step, is new. The receptor solution/molecules (RS/RMs) or solid support (SS) used comprise **photoreactive** molecules which are illuminated to immobilize the RMS to the SS.

DETAILED DESCRIPTION - A method (I) for generating a **microarray**, comprising:

(1) applying at least 1 reagent solution (RS) containing receptor molecules (RM) to a solid support (SS) to form a first applied spot pattern (ASP) (spots in the first ASP have an area and the RS, RM and/or SS comprise at least 1 **photoreactive group** (PG));

(2) illuminating the first ASP to immobilize the RMs to the SS in a first immobilized spot pattern (ISP) (spots in the first ISP have an area which is less than the area of the first ASP).

An INDEPENDENT CLAIMS is also included for a **microarray** (II) prepared via (I).

USE - The method is used for generating high density **microarrays** (II) (claimed).

ADVANTAGE - The **microarrays** generated can have a variety of densities, preferably high densities (10000 - 100000 spots per square cm) or a pitch of 30 - 100 micrometers.

Dwg.0/3

L20 ANSWER 10 OF 14 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 2002-329835 [36] WPIDS
CROSS REFERENCE: 2003-669806 [63]
DOC. NO. CPI: C2002-095382
TITLE: New compounds containing specific photolytic protecting groups, useful for synthesis, particularly of peptides and oligonucleotides as **arrays** on supports.
DERWENT CLASS: B04 B05
INVENTOR(S): BARONE, A D; MCGALL, G H
PATENT ASSIGNEE(S): (AFFY-N) AFFYMETRIX INC
COUNTRY COUNT: 98
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002020150	A2	20020314	(200236)*	EN	95
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO
RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2001092142 A 20020322 (200251)
EP 1325017 A2 20030709 (200345) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI TR

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002020150	A2	WO 2001-IB1650	20010911
AU 2001092142	A	AU 2001-92142	20010911
EP 1325017	A2	EP 2001-972369	20010911
		WO 2001-IB1650	20010911

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001092142	A	Based on	WO 2002020150
EP 1325017	A2	Based on	WO 2002020150

PRIORITY APPLN. INFO: US 2000-659599 20000911
AN 2002-329835 [36] WPIDS
CR 2003-669806 [63]
AB WO 200220150 A UPAB: 20031001
NOVELTY - Compounds (I) containing specific photolytic protecting groups are new.
DETAILED DESCRIPTION - Compounds of formula X-Y (I) are new.
X = leaving group or compound with masked reactive site;
Y = photolabile protecting group of formula Ar-CHR-S-(CH2)2-OCO-, Ar-OCO-, Ar-NRCO- , Ar-S-(CH2)2-OCO-, Ar1-OCO-, Ar2-CHMe-OCO- or a group of formula (i) or (ii);
Ar = 2-nitrophenyl;
Ar1 = 3-nitrophenyl;
Ar2 = 8-nitronaphth-1-yl;
R = H or alkyl or aryl (both optionally substituted);
A = O, S, NR or (CH2)k;
k = 0-3; and
B = mono- or di-valent, aprotic, weakly basic group.
INDEPENDENT CLAIMS are included for:
(1) compounds of formula X-Ya (Ia) and X-Yb (Ib);
(2) a method for attaching a compound having a reactive site to a support; and
(3) a method of forming support bound compounds in separate predefined regions of the support from component molecules comprising:
(a) activating a first predefined region of the support;
(b) binding a molecule to the first region;
(c) repeating steps (a) and (b) on other predefined regions of the support;
(d) removing the photolabile protecting group to give a molecule with an unmasked reactive site;
(e) binding an additional molecule to the support bound molecule with an unmasked reactive site; and
(f) repeating steps (d) and (e).
Ya = a group of formula (iii);
R1, R2 = H, trialkylsilyl, or alkyl, alkenyl, alkynyl or (hetero)aryl

(all optionally substituted), or a vinylogous derivative;
Q1 = O, S, CH2O or CH2S;
Q2 = O or S;
R3, R4 = H, NO2, or alkyl, aryl or alkoxy (all optionally substituted
R5, R6 = H or alkyl, aryl or alkoxy (all optionally substituted);
Q3 = H, optionally substituted alkoxy, or dialkylamino;
Z1+Z2 = OCO, NR7CO or CR8=CR9;
R7 = H or alkyl;
R8 = H, or alkyl, aryl or alkoxy (all optionally substituted);
R9 = R8 or NO2; or
R8+R9 = 5-6 membered carbo- or hetero-cyclic ring;
Yb = a group of formula (iv);
m = 0-1;
p = 0-2;
Q4 = O, S or R13;
R13 = H or optionally substituted alkyl or aryl;
R10 = H, NO2, or alkyl, aryl and alkoxy (all optionally substituted); or
R10+R13 = 5-6 membered heterocycle;
R11, R12 = H, halo or alkyl, aryl or alkoxy (all optionally substituted); or
R11+R12 = 5-6 membered heterocycle;
provided that if 1 R3 or R4 is nitro then at least one of R1 and R2 is H; and if R3, R4 and R9 are not all NO2, then Q1 is not CH2O or CH2S.
USE - (I) Are used as linking groups in chemical synthesis, especially solid-phase synthesis of oligonucleotides or peptides (particularly in the form of high density arrays, e.g. for diagnosis) but also for oligo- or poly-saccharides and other polymers that can built up by stepwise reaction, also for synthesis of potential pharmaceuticals and for selective doping of organic compounds into semiconductors.
Dwg.0/21

L20 ANSWER 11 OF 14 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 2001-059954 [07] WPIDS
CROSS REFERENCE: 1999-034586 [03]; 2000-236648 [20]; 2003-897452 [82]; 2004-019653 [02]
DOC. NO. CPI: C2001-016500
TITLE: New aralkoxycarbonyl derivatives useful as photolabile linking groups in chemical synthesis.
DERWENT CLASS: A96 B04
INVENTOR(S): MCGALL, G H; NAM, N Q; RAVA, R P
PATENT ASSIGNEE(S): (AFFY-N) AFFYMETRIX INC
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 6147205	A	20001114	(200107)*	18	

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 6147205	A Provisional	US 1995-8684P	19951215
	CIP of	US 1996-630148	19960410
		US 1997-812005	19970305

PRIORITY APPLN. INFO: US 1995-8684P 19951215; US 1996-630148 19960410; US

1997-812005 19970305

AN 2001-059954 [07] WPIDS
CR 1999-034586 [03]; 2000-236648 [20]; 2003-897452 [82]; 2004-019653 [02]
AB US 6147205 A UPAB: 20040107
NOVELTY - Aralkoxycarbonyl derivatives (I) are new.
DETAILED DESCRIPTION - Aralkoxycarbonyl derivatives of formula Ar-C(R1)(R2)-O-C(O)-X (I) are new.
Ar = optionally substituted fused polycyclic aryl or its vinylogous derivative;
R1, R2 = H, optionally substituted alkyl, alkenyl, alkynyl, aryl or heteroaromatic or its vinylogous derivative;
X = a leaving group, a chemical fragment linked via a heteroatom or a solid support; and
provided that when Ar is 1-pyrenyl and R1, R2 are H then X is not linked via N.
An INDEPENDENT CLAIM is included for the preparation of Ar'-CH2OC(O)Nu1 (I').
Ar' = 1-prenyl or 9-anthracenyl;
Nu1 = base protected nucleoside comprising adenine, cytosine, guanine, thymine, uracil or their analogs and the base is linked to a ribose, 2'-O-alkylribose, 2'-O-allylribose, 2'-deoxyribose, 2'-deoxy-2'-fluororibose or 2'-deoxy-2'-bromoribose.
USE - The compounds are **photocleavable** linking groups and protecting groups for chemical synthesis, e.g. for synthesis of high density molecular **arrays** on solid supports. Photolabile groups are know to be useful in peptide synthesis. The compounds are particularly useful for solid phase synthesis of oligonucleotides and polypeptides.
ADVANTAGE - The **photocleavable groups** are stable to a variety of reagents such as piperidine and trifluoroacetic acid, they are readily cleaved under mild conditions and do not generate highly reactive by-products. The protecting groups are removed by photolysis to leave a reactive group. The use of a photoremovable protecting group allows removal of selected portions of the substrate surface via patterned irradiation during the deprotection cycle of solid phase synthesis, allowing spatial control of the synthesis, the next amino acid being coupled to the irradiated areas only. The resulting **array** can be used to determine which peptides on the **array** can bind to a receptor.
Dwg.0/4

L20 ANSWER 12 OF 14 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 2000-490942 [43] WPIDS
CROSS REFERENCE: 1999-119865 [10]; 2001-611349 [70]
DOC. NO. CPI: C2000-147497
TITLE: Reagents and method for covalently attaching target molecules to substrates, useful for the preparation of nucleic acid **microarrays**.
DERWENT CLASS: A89 B04 D16 P42
INVENTOR(S): CHAPPA, R A; GUIRE, P E; HU, S; SWAN, D G; SWANSON, M J
PATENT ASSIGNEE(S): (SURM-N) SURMODICS INC
COUNTRY COUNT: 24
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000040593	A2	20000713	(200043)*	EN	63
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: AU CA JP MX					
AU 2000024979	A	20000724	(200052)		
US 2001014448	A1	20010816	(200149)		

EP 1141385 A2 20011010 (200167) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
US 6465178 B2 20021015 (200271)
MX 2001006935 A1 20011001 (200274)
JP 2002534663 W 20021015 (200282) 78
US 2003148308 A1 20030807 (200358)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000040593	A2	WO 2000-US535	20000110
AU 2000024979	A	AU 2000-24979	20000110
US 2001014448	A1 CIP of	US 1997-940213	19970930
		US 1999-227913	19990108
EP 1141385	A2	EP 2000-903199	20000110
		WO 2000-US535	20000110
US 6465178	B2 CIP of	US 1997-940213	19970930
		US 1999-227913	19990108
MX 2001006935	A1	MX 2001-6935	20010706
JP 2002534663	W	JP 2000-592301	20000110
		WO 2000-US535	20000110
US 2003148308	A1 CIP of	US 1997-940213	19970930
	Div ex	US 1999-227913	19990108
		US 2002-192917	20020709

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2000024979	A Based on	WO 2000040593
US 2001014448	A1 CIP of	US 5858653
EP 1141385	A2 Based on	WO 2000040593
US 6465178	B2 CIP of	US 5858653
JP 2002534663	W Based on	WO 2000040593
US 2003148308	A1 CIP of	US 5858653
	Div ex	US 6465178

PRIORITY APPLN. INFO: US 1999-227913 19990108; US 1997-940213 19970930; US 2002-192917 20020709

AN 2000-490942 [43] WPIDS
CR 1999-119865 [10]; 2001-611349 [70]
AB WO 200040593 A UPAB: 20030910
NOVELTY - A reagent (I) and method (II) for attaching target molecules to the surfaces of substrates, are new. (I) comprises functional groups that covalently bond to the target molecule and may optionally comprise **photoreactive groups** for the same purpose.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) a reagent (I) for attaching a target molecule to the surface of a substrate, comprising a polymeric backbone with at least 1 pendent thermochemically reactive group adapted to form covalent bonds with corresponding functional groups on the target molecule and the reagent is adapted to be coated and immobilized onto a surface in a manner that permits:

(a) a small sample volume of a solution containing the target molecule to be applied in the form of a discrete spot on the reagent coated surface;

(b) target molecule present in the sample volume to become attached

to the bound reagent by a reaction between its functional groups and the corresponding thermochemically reactive groups; and

(c) substantially all unattached target molecule to be washed from the spot without undue detectable amounts of target molecule in the area surrounding the spot;

(2) a method (II) of attaching a target molecule to the surface of a substrate, comprising:

(a) providing (I) and coating and immobilizing the reagent composition on the substrate surface;

(b) providing a solution comprising a target molecule comprising at least 1 functional group thermochemically reactive with corresponding groups provided by (I);

(c) applying 1 or more discrete small sample volume spots of the solution to the surface; and

(d) allowing the thermochemically reactive groups provided by (I) to form covalent bonds with corresponding functional groups from the target molecule to attach the target molecule to the surface;

(3) an activated slide (III) with a flat support surface coated with the bound residue of (I); and

(4) a **microarray** (IV) prepared by:

(a) coating and immobilizing (I) on to a substrate surface;

(b) providing a solution comprising a target molecule comprising 1 or more functional groups thermochemically reactive with corresponding groups provided by (I);

(c) applying 1 or more discrete small sample volume spots of the solution to the surface of the substrate; and

(d) allowing the thermochemically reactive groups of (I) to form covalent bonds with corresponding functional groups provided by the target molecule to attach the target molecule to the surface.

USE - The method (II) is used to prepare activated slides for the production of **microarrays** of nucleic acids upon the surface of plastic, silicon hydride, silicone and/or organosilane-pretreated glass slides. Each **array** provides at least 100/cm2 distinct nucleic acids with a length of at least 10 nucleotides. The nucleic acids are each spotted in discrete regions and in defined quantities of 0.1 femtomoles to 10 nanomoles. The regions are circular in shape and have a diameter of 10 to 500 microns and are separated from other regions in the **array** by a center to center spacing of 20 microns to 100 microns (claimed). The **microarrays** may be used in a range of diagnostic procedures.

(I) may also be used to attach molecules to microwell plates, tubes, beads, silicon wafers and/or membranes.

ADVANTAGE - (I) may be used to attach probes to surfaces which would otherwise absorb them, such as polypropylene and polyvinylchloride. The resultant surfaces provide signals comparable to or better than those obtained with modified oligonucleotide absorbed onto polystyrene or polycarbonate. (I) provides improved nucleic acid immobilization for solid phase sequencing and for immobilizing primers for polymerase chain reaction (PCR) and other amplification techniques.

Dwg.0/0

L20 ANSWER 13 OF 14 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 1999-527589 [44] WPIDS
CROSS REFERENCE: 1999-180767 [15]
DOC. NO. NON-CPI: N1999-390762
DOC. NO. CPI: C1999-155058
TITLE: New photoactivatable nucleic acid derivatives, used particularly for attaching a nucleic acid to a support for forming a probe **array**.
DERWENT CLASS: B04 D16 J04 S03
INVENTOR(S): GUIRE, P E; OPPERMAN, G W; SWANSON, M J

PATENT ASSIGNEE(S): (SURM-N) SURMODICS INC; (GUIR-I) GUIRE P E; (OPPE-I) OPPERMAN G W; (SWAN-I) SWANSON M J

COUNTRY COUNT: 23

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9943688	A1	19990902	(199944)*	EN	34
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: AU CA JP MX					
AU 9928729	A	19990915	(200004)		
EP 1064292	A1	20010103	(200102)	EN	
R: DE ES FR GB IE IT					
JP 2002504695	W	20020212	(200215)		37
US 2002086989	A1	20020704	(200247)		
MX 2000008098	A1	20011101	(200279)		
US 6506895	B2	20030114	(200313)		
AU 758328	B	20030320	(200329)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9943688	A1	WO 1999-US3862	19990223
AU 9928729	A	AU 1999-28729	19990223
EP 1064292	A1	EP 1999-909547	19990223
		WO 1999-US3862	19990223
JP 2002504695	W	WO 1999-US3862	19990223
		JP 2000-533440	19990223
US 2002086989	A1 CIP of	US 1997-916913	19970815
		US 1998-28806	19980224
MX 2000008098	A1	MX 2000-8098	20000818
US 6506895	B2 CIP of	US 1997-916913	19970815
		US 1998-28806	19980224
AU 758328	B	AU 1999-28729	19990223

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9928729	A	Based on	WO 9943688
EP 1064292	A1	Based on	WO 9943688
JP 2002504695	W	Based on	WO 9943688
US 6506895	B2	CIP of	US 6121027
AU 758328	B	Previous Publ.	AU 9928729
		Based on	WO 9943688

PRIORITY APPLN. INFO: US 1998-28806 19980224; US 1997-916913 19970815

AN 1999-527589 [44] WPIDS

CR 1999-180767 [15]

AB WO 9943688 A UPAB: 20030505

NOVELTY - A novel composition comprises a photoactivatable nucleic acid derivative comprising a nucleic acid having one or more **photoreactive groups** bound to it, where the **photoreactive groups** each generate an active species selected from nitrenes, carbenes and excited states of ketones upon absorption of electromagnetic energy.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a method of preparing a photoactivatable nucleic acid derivative comprising covalently attaching **photoreactive group**(s) to a synthetic oligonucleotide in the course of synthesis, the group(s) generating an active species upon adsorption of electromagnetic energy;

(2) a probe **array** comprising nucleic acids covalently attached, where the nucleic acids are covalently attached via the residues of activated **photoreactive groups**; and

(3) a surface bearing an immobilized nucleic acid.

USE - The **photoreactive groups** can be used to form derivatized nucleic acids, which in turn can be activated in order to attach the nucleic acids to the surface of a support in a manner that does not detrimentally affect the use of the immobilized nucleic acid for its intended purpose. The photoactivatable nucleic acids can be printed onto surfaces in **arrays**, then photoactivated by uniform illumination to immobilize them to the surface in specific patterns. They can also be sequentially applied uniformly to the surface, then photoactivated by illumination through a series of masks to immobilize specific sequences in specific regions. Thus, multiple sequential applications of specific photoderivatized nucleic acids with multiple illuminations through different masks and careful washing to remove uncoupled photo-nucleic acids after each photocoupling step can be used to prepare **arrays** of immobilized nucleic acids.

Dwg.0/0

L20 ANSWER 14 OF 14 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

ACCESSION NUMBER: 1991-007157 [01] WPIDS

CROSS REFERENCE: 1992-234281 [28]; 1992-234642 [28]; 1992-234643 [28]; 1993-182499 [22]; 1995-262624 [34]; 1996-279562 [29]; 1996-299854 [30]; 1997-212536 [19]; 1998-271063 [24]; 1998-314481 [28]; 1998-376811 [32]; 1999-610467 [52]; 2001-373810 [39]; 2002-074331 [10]; 2002-121438 [16]; 2002-453235 [48]; 2002-565444 [60]; 2002-641708 [69]; 2002-680807 [73]; 2003-015684 [01]; 2003-165415 [16]; 2003-491679 [46]; 2003-744007 [70]; 2003-810847 [76]; 2004-079908 [08]; 2004-106465 [11]; 2004-212103 [20]; 2004-280258 [26]

DOC. NO. CPI: C1991-003139

TITLE: Synthesis of polymers of known chemical sequence - at known locations on substrate for screening of polymers for biological activity.

DERWENT CLASS: A96 B04 P42 P84 Q71

INVENTOR(S): FODOR, S P A; PIRRUNG, M C; READ, J L; STRYER, L; READ, J; READ, L J; HOLMES, C P; SOLAS, D W; WINKLER, J L; FODOR, S P

PATENT ASSIGNEE(S): (AFFY-N) AFFYMAX TECHNOLOGIES NV; (AFFY-N) AFFYMETRIX INC; (AFFY-N) AFFYMAX TECHN NV; (AFFY-N) AFFYMAX TECN NV; (AFFY-N) AFFYMAX TECH NV

COUNTRY COUNT: 37

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9015070	A	19901213	(199101)*		85
RW: AT BE CH DE DK ES FR GB IT NL OA SE					
W: AT AU BB BG BR CH DE DK ES FI GB HU JP KP KR LK LU MC MG MW NL NO RO SD SE US					
AU 9058371	A	19910107	(199115)		
ZA 9004354	A	19910828	(199139)		
FI 9105723	A	19911204	(199211)		
EP 476014	A	19920325	(199213)		85

	R:	AT	BE	CH	DE	DK	ES	FR	GB	IT	LI	LU	NL	SE
NL	9022056				A	19920302			(199213)					64
NO	9104826				A	19911206			(199215)					
GB	2248840				A	19920422			(199217)					85
BR	9007425				A	19920721			(199235)					
HU	59938				T	19920728			(199235)					
US	5143854				A	19920901			(199237)					
JP	04505763				W	19921008			(199247)					25
NZ	233886				A	19930225			(199312)					
GB	2248840				B	19931201			(199348)					
AU	651795				B	19940804			(199433)					
EP	476014				B1	19940831			(199433)			EN		40
	R:	AT	BE	CH	DE	DK	ES	FR	GB	IT	LI	LU	NL	SE
DE	69012119				E	19941006			(199439)					
EP	619321				A1	19941012			(199439)			EN		
	R:	AT	BE	CH	DE	DK	ES	FR	GB	IT	LI	LU	NL	SE
ES	2058921				T3	19941101			(199444)					
US	5405783				A	19950411			(199520)					38
AU	9477655				A	19950504			(199526)					
IL	94551				A	19950330			(199530)					
US	5445934				A	19950829			(199540)					1
US	5510270				A	19960423			(199622)					37
NL	191992				B	19960801			(199636)					38
AU	672723				B	19961010			(199648)					
NO	301233				B1	19970929			(199746)					
RU	2107072				C1	19980320			(199844)					
EP	619321				B1	19990107			(199906)			EN		
	R:	AT	BE	CH	DE	DK	ES	FR	GB	IT	LI	LU	NL	SE
DE	69032888				E	19990218			(199913)					
JP	11021293				A	19990126			(199914)					27
EP	902034				A2	19990317			(199915)			EN		
	R:	AT	BE	CH	DE	DK	ES	FR	GB	IT	LI	LU	NL	SE
ES	2129101				T3	19990601			(199928)					
KR	9701577				B1	19970211			(199934)					
KR	9701578				B1	19970211			(199934)					
EP	953835				A1	19991103			(199951)			EN		
	R:	AT	BE	CH	DE	DK	ES	FR	GB	IT	LI	LU	NL	SE
JP	11315095				A	19991116			(200005)					28
CA	2278878				A1	19901208			(200013)			EN		
US	6225625				B1	20010501			(200126)					
US	6261776				B1	20010717			(200142)					
CA	2054706				C	20010828			(200154)			EN		
US	6291183				B1	20010918			(200157)					
TW	434254				A	20010516			(200170)					
CA	2278883				C	20011204			(200203)			EN		
US	6329143				B1	20011211			(200204)					
FI	109130				B1	20020531			(200239)					
US	6403957				B1	20020611			(200244)					
US	6406844				B1	20020618			(200244)					
CA	2278878				C	20020917			(200267)			EN		
CA	2391491				A1	19901213			(200268)			EN		
US	6491871				B1	20021210			(200301)					
US	2002192693				A1	20021219			(200303)					
US	2003013100				A1	20030116			(200308)					
US	2003064391				A1	20030403			(200325)					
US	2003082831				A1	20030501			(200331)					
US	6630308				B2	20031007			(200374)					
US	6646243				B2	20031111			(200382)					
US	6660234				B2	20031209			(200405)					
US	2003235853				A1	20031225			(200408)					

JP 2004002386 A 20040108 (200410) 51

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
ZA 9004354	A		ZA 1990-4354	19900606
EP 476014	A		EP 1990-909187	19900607
NL 9022056	A		NL 1990-22056	19900607
GB 2248840	A		GB 1991-25996	19911206
BR 9007425	A		BR 1990-7425	19900607
HU 59938	T		HU 1990-4730	19900607
			WO 1990-NL81	19900607
US 5143854	A	CIP of	US 1989-362901	19890607
			US 1990-492462	19900307
JP 04505763	W		JP 1990-508966	19900607
			WO 1990-NL81	19900607
NZ 233886	A		NZ 1990-233886	19900531
GB 2248840	B		WO 1990-NL81	19900607
			GB 1991-25996	19911206
AU 651795	B		AU 1990-58371	19900607
EP 476014	B1		EP 1990-909187	19900607
			WO 1990-NL81	19900607
DE 69012119	E		DE 1990-612119	19900607
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FILING DETAILS:

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AU 651795	B	Previous Publ.	AU 9058371
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US 5510270	A	Div ex	US 5143854
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1992-850356 19920312; US
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2003-428628 20030502

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CR 1992-234281 [28]; 1992-234642 [28]; 1992-234643 [28]; 1993-182499 [22]; 1995-262624 [34]; 1996-279562 [29]; 1996-299854 [30]; 1997-212536 [19]; 1998-271063 [24]; 1998-314481 [28]; 1998-376811 [32]; 1999-610467 [52]; 2001-373810 [39]; 2002-074331 [10]; 2002-121438 [16]; 2002-453235 [48]; 2002-565444 [60]; 2002-641708 [69]; 2002-680807 [73]; 2003-015684 [01]; 2003-165415 [16]; 2003-491679 [46]; 2003-744007 [70]; 2003-810847 [76]; 2004-079908 [08]; 2004-106465 [11]; 2004-212103 [20]; 2004-280258 [26]

AB WO 9015070 A UPAB: 20040421

(A) A method of preparing sequences on a substrate comprises (a) exposing a first region of the substrate to an activator to remove a protective gp.; (b) exposing at least the first region to a first monomer; (c) exposing a second region to an activator to remove a protective gp. and (d) exposing at least the second region to a second monomer. The activator may be, e.g. ion beams, electron beams, gamma rays, X-rays, U.V. light, IR or electric currents. The substrate may be, e.g. Langmuir Blodgett film, functionalised glass, germanium silicon, PTFE, polystyrene or gallium arsenide. The protective gp. may be e.g. o-nitrobenzyl derivs., 6-nitroveratryloxycarbonyl, 2-nitrobenzyloxycarbonyl or cinnamoyl derivs.

(B) A method for identifying at least one peptide sequence for binding with a receptor comprises (a) on a substrate having polypeptides each having photoremovable protective gps., irradiating first selected polypeptides to remove the protective gp., (b) contacting the polypeptides with a first amino acid to create a first sequence, second polypeptides on the substrate comprising a second sequence and (c) identifying which of the first or second sequence binds with the receptor.

Appts. to prepare polymers and substrates with amino acid sequences are also claimed.

USE/ADVANTAGE - Using the methods and appts. it is possible to synthesise polymers of a known chemical sequence at known locations on a substrate and screen large numbers of polymers for biological activity. They may be used for the preparation of e.g. oligomers, polypeptides, polynucleotides, oligosaccharides, polymers or drug congeners.

Dwg.0/14

ABEQ US 5143854 A UPAB: 19930928

Synthesis of polypeptide **arrays** on substrate surfaces (e.g., Langmuir-Blodgett films, glass, Ge, Si, PTFE, GaAS, GaP, SiO2, Si3N4, etc.), comprises immobilising an aminoacid with a **photocleavable gp.** on the substrate surface; exposure of selected zones to active radiation; coupling an aminoacid to the activaed site; and repetition to form polypeptides of a required chain length; such that at least 100 different polypeptides are produced on the substrate surface, each occupying a surface area less than 0.1 cm2.

USE - The immobilised polypeptide **array** facilitates the identification of polypeptides which bind specifically with a given receptor, e.g., antibodies.

0/20

ABEQ GB 2248840 B UPAB: 19940120

A substrate for screening for biological activity, comprising 1000 or more different ligands on a surface thereof in different predetermined

locations.
Dwg.0/0

ABEQ EP 476014 B UPAB: 19941010
A method of preparing a set of polymers by monomer by monomer synthesis on predefined regions of a substrate, comprising the steps of: irradiating a first predefined region of a surface of the substrate, which surface is provided with functional groups protected by radiation-removable protective groups, to remove protective groups therefrom; contacting said surface with a first monomer to couple the monomer to the deprotected functional groups in said first predefined regions, the monomer having a functional group protected by a radiation-removable protective group; irradiating a second predefined region (which may or may not be the same as said first predefined region) of the surface to remove protective groups therefrom; contacting said surface with a second monomer (which may or may not be the same as said first monomer) to couple the monomer to the deprotected functional groups in said second predefined region, the monomer having a functional group protected by a radiation-removable protective group; the method further including the performing of additional irradiating and monomer contacting and coupling steps as necessary to form said set, wherein at least a portion of at least one of said first and second predefined regions is irradiated in at least one of said additional steps and wherein the polymers have locations on said surface and sequences defined by the patterns of irradiation created during said irradiating steps and the particular monomers coupled in said contacting and coupling steps, and provided that the last monomer in each said sequence need not be protected with a radiation removable protecting group.
Dwg.0/14

ABEQ US 5405783 A UPAB: 19950530
An **array** of peptides is formed on a substrate, whose surface comprises 2 or more regions with peptide molecular upon. Peptides are coupled to a photoremovable protective gp. at a functional gp. which can bind a second functional gp. of amino acids which also has a first functional gp. coupled to a photoremovable protective gp..

Process comprises (a) removing the photoremovable gp. from the first region of the substrate, but not from the second; (b) contacting first and second regions of surface with amino acids to covalently bond its second functional gp. to the first function gp. of the peptide in the first region, but not in the second; (c) removing the photoremovable gp. from at least part of the amino acids in the first region; and (d) contacting both regions with second selected amino acids to covalently bond a second functional gp. of them to the first functional gp. of the first amino acids, forming peptides of different sequence in the first region w.r.t. the second.

ADVANTAGE - Polymers are formed with monomer sequences and locations determined by the order of addn. of monomers and the activation patterns formed on the substrate.
Dwg.0/20

ABEQ US 5445934 A UPAB: 19951011
Oligonucleotide **array** comprises 10power-3 or more (pref. up to 10power-6 or more) different oligonucleotides attached covalently through a linking agent to a substrate surface at discrete sites, such that the nucleotide sequence of each oligonucleotide is known, the position of each oligonucleotide on the surface is defined, and the total oligonucleotide **array** occupies an area less than 1 cm2.. The oligonucleotides are readily identified by fluorescence methods, and their known sequences and positions are stored in a computer data bank.

USE/ADVANTAGE - The prods. facilitate the automatic photodetection and identification of oligonucleotide sequences. The prods. facilitate the rapid scanning of experimental oligonucleotide spots, automatic comparison

with the above **array** of oligonucleotides, and identification of the experimental oligonucleotide sequences,
Dwg.0/20

ABEQ US 5510270 A UPAB: 19960604

A method of synthesizing and screening oligonucleotides comprising the sequential steps of: a) generating a pattern of light and dark areas by selectively irradiating at least a first area of a surface of a substrate, said surface comprising immobilized nucleotides on said surface, said nucleotides capped with a photo-removable protective group, without irradiating at least a second area of said surface, to remove said protective group from said nucleotides in said first area; b) simultaneously contacting said first area and said second area of said surface with a first nucleotide to couple said first nucleotide to said immobilized nucleotides in said first area, and not in said second area, said first nucleotide capped with said photo removable protective group; c) generating another pattern of light and dark areas by selectively irradiating with light at least a part of said first area of said surface and at least a part of said second area to remove said protective group in said at least a part of said first area and said at least a part of said second area; d) simultaneously contacting said first area and said second area of said surface with a second nucleotide to couple said second nucleotide to said immobilized nucleotides in at least a part of said first area and at least a part of said second area; e) performing additional irradiating and nucleotide contacting and coupling steps so that a matrix **array** of at least 100 oligonucleotides having different sequences is formed on said surface, said at least 100 oligonucleotides in at least 100 respective areas of less than 0.1 cm2, whereby said at least 100 oligonucleotides have sequences and locations on said surface defined by the patterns of light and dark areas formed during the irradiating steps and the nucleotides coupled in said contacting steps; and f) contacting said at least 100 oligonucleotides with a receptor to identify an oligonucleotide showing complementarity to said receptor.
Dwg.0/20

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15	0	((photoreactive or photocleavable) near border)	USPAT; US-PGPUB; EPO; DERWENT	2004/05/28 15:26
16	2	((photoreactive or photocleavable or convertible) near border)	USPAT; US-PGPUB; EPO; DERWENT	2004/05/28 15:26
20	7	photocleavable near hydrophobic	USPAT; US-PGPUB; EPO; DERWENT	2004/05/28 15:40
21	60	"6121048"	USPAT; US-PGPUB; EPO; DERWENT	2004/05/28 15:41

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L4           28 SEA ABB=ON  L2 OR L3
L5        44723 SEA ABB=ON  L1 AND (?ANALYT? OR ?MOLECUL?)
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L17          34 SEA ABB=ON  L4 OR L16

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34 cits from CA files

14 cits from other databases